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**Work Organisation and Management Strategies in
Consumer Electronics: theoretical issues and case
study evidence**

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ABSTRACT

This thesis is concerned with the patterns of work and employment within foreign owned multinationals operating in the UK's consumer electronics industry. The focus is on evaluating current debates on whether there has been any changes or shifts in relations between capital and labour, which constitute a new paradigm.

There is a growing set of literature which argues that Japanese capitalism is providing new paradigms for work relations which result in highly cooperative associations between worker and employer. Much of the evidence for such claims comes from studies of Japanese owned plants operating in the UK and US. However, there is little depth to such studies, which mainly consist of interviews with managers or questionnaires. Through selection of a case study methodology and by critically assessing the nature of Japanese managerial techniques, this research challenges fundamentally the 'Japanisation' school. Moreover, the thesis provides contradictory findings concerning 'flexibility'. More tentatively, the thesis contributes to debates on labour segmentation based on gender, and on the wider debate around 'new industrial relations'.

The research was based on four case studies, three Japanese and one European, but not British, owned plants of large multinational corporations. The headquarters of the Japanese plants were also visited, as were plants in Japan. More than 50 taped interviews were conducted with over 100 managers, workers and trade union officials from the UK and Japan. In addition, factory visits were made at each plant more than once and often with a almost a year between visits.

The main findings are that the plants did not display any of the features attributed to 'Japanisation', except with the marginal exception of the European plant. Techniques, such as 'just-in-time' and direct participation between employees and management to the exclusion of unions, were not in evidence. Instead, management was concerned with maximising production runs, minimising change and constantly trying to control workers, who were themselves conscious that for most of them, their work was repetitive boring and, especially for the women, deskilled.

For my Mother, Father, David, Jane and Chiafang.

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PREFACE

This thesis is about the process of television manufacture in the UK, a relatively uncertain industry in the 1980s and 1990s. The thesis consists of a study of four cases of manufacturing plants, owned by multinationals. Three of the plants belong to Japanese multinationals, the fourth being European.

In December 1991, less than a year and a half after the field research was completed the European owned plant closed. The reason given by headquarters management in a press release, was that television production was to be rationalised by transferring manufacture to the Continent. A deciding factor for moving out of the UK was the failure of the BSB satellite television broadcasting company, under whose licence the plant had produced satellite receivers. These receivers, and the development of satellite television within the UK were seen as important reasons for maintaining production in the UK. The decision to invest heavily in technology and production organisation to produce BSB receivers was in contrast to the three Japanese companies which were studied, as they held back from manufacturing either BSB or Sky receivers, to see the market size potential and which of the two broadcasting companies would be dominant. This difference in management decisions cost over a thousand workers their jobs, and perhaps ensured the security of the workers at the three Japanese plants, as another competitor went to the wall.

This thesis was researched and largely written before news of the closure of the plant was announced, and, therefore, the reasons for closure will not be developed in the

thesis. Nevertheless, the nature of competition, divergent strategies to cope with the pressures and the impact this has on workers goes some way to explaining the crisis of capitalism in which such capitalist entrenchment takes place.

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CHAPTER ONE

INTRODUCTION

INTRODUCTION

The thesis seeks to review and further develop arguments about the changing character of industrial and employment relations in contemporary Britain, particularly with reference to widespread debates about 'Japanisation'. A central feature of these debates has been the claim that there have been substantial changes in managerial strategies and consequently work and employment relations following the 'Japanisation' of industry (Turnbull;1986). This argument is examined in this thesis through case studies of inward investing Japanese firms, for such firms can be taken to exemplify these developments. The intention is to examine these debates through a systematic case study analysis of three such firms within the television manufacturing industry, alongside a comparison with a European firm within the same sector. However, what has become apparent from my fieldwork is that much of the evidence from the four cases runs counter to the literature. Rather than substantial change in managerial and work relations, the evidence for continuity is quite marked. The extent of this divergence calls into question much of the argument that there is a trend towards 'new era' employment relations. Thus, although this thesis is first and foremost a study of employment practices and relations within an important industrial sector, it might also be read as a contribution to wider debates.

This thesis looks at television assembly, a product produced for a saturated market. Ten years ago the market for televisions in the UK was one where there was international competition, with local producers competing with other European countries and some from East Asia. At the time of the research the local producers disappeared and competition focused among foreign owned multinationals slugging it out in the fiercely competitive UK market and, increasingly, the EC generally. Two European giants, Thomson and Phillips compete mainly with several Japanese companies and increasingly, Samsung from South Korea and Tatung from Taiwan.

This study examines work relations and employment practices within the context of this fiercely competitive situation, focusing on four case studies. The aim is to understand the connections between the production of a specific good, colour televisions, management practices and strategies, and the character of the labour process, within the context of these market relations. This draws attention to two related points which are examined in the thesis. First, that one can only understand the employment relationship and management's wish to control it within a context of capitalist needs for profits. Under competitive circumstances this requires economies of scale from cheap production and the ability to maintain shares in mass markets. Second, this implies that management strategies or practices towards employment are largely about achieving predictability through maintaining stability, not initiating change.

Japanese capital is generally seen as very 'good' at making profits, and even if no academic wants to work in a television factory, we all might buy a television made

by others who must work in the factory. There is a style of thought, located in regulation theory, flexible specialisation analyses and some proponents of 'Japanisation', that working on the factory floor of a Japanese owned company is more satisfying than elsewhere. The argument is that workers are employed in meaningful work which is intrinsically satisfying. The theoretical focus of this thesis is a critical analysis of such assumptions and of the wider notion of the importance of new labour process paradigms through empirical case studies of specific firms and labour processes.

THE CASES

The discussion draws on case studies of four multinational corporations, with production facilities spread throughout the world: Burg, Orki, Kuda and Hashi. These are pseudonyms for the companies real names, which are withheld as a condition stipulated by management for gaining research access to their sites.

Part of the production activity of each of these corporations was television manufacture. Three of the multinationals were Japanese in origin and the fourth, Koburg, was European, though not British owned. The pseudonyms used for the plants located in the UK are the same as for the multinational corporations, except that 'Ko' is prefixed, 'Ko' meaning child or child of in Japanese names. All except Hashi were corporations which primarily engaged in consumer electronics and related activities, such as Office Automation (OA) equipment. Hashi was a diversified conglomerate with interests ranging from building nuclear power stations to audio

tapes, spread among 660 subsidiaries around the world (Hashi;1989;2). The local plants in the study were branch plants of these multinationals: Orki owned Koorki, Kuda owned Kokuda, Hashi owned Kohashi and Burg owned Koburg. The latter two plants, Kohashi and Koburg, were once owned by UK based multinationals. The differences in terms of ownership, relative importance of television to overall production and geographical location of the branch plants are all of central importance to understanding the different characteristics of the cases and will be outlined more fully in Chapter Three.

THE CHAPTERS

The thesis is organised into twelve chapters, nine of which are grouped into three sections: 'Context', 'Practices', and 'Experiences and Perceptions'. Each section provides a discussion of issues at a different level of analysis, starting from the context which place the case studies within a prescribed environment of market and corporate control (Section I), through the organisation of the labour process (Section II), to the experience, perceptions and resistance of labour subjected to these processes (Section III).

Following this chapter, Chapter Two, 'Japanisation' of the UK Labour Process', is free standing and looks at various theories about 'Japanisation', flexible specialisation and Post Fordist production. It focuses particularly on Japanisation which is seen by the literature as both a distinct set of practices and a metaphor to encapsulate changing relations between labour and capital in terms of power and identity. The

analysis will expose the problematical nature of much of these 'new era of industrial relations' type models.

Within Section I there are three chapters. The first of these, Chapter Three, 'Outline of the Cases', discusses previous research into Japanese consumer electronics investment in the UK, methodological issues, and introduces features of the cases studies looked at in this thesis. The size and location of the plants, the employment patterns and some basic information required to understand later chapters is provided. This chapter will show diversity in structure and size of the cases, but given certain limitations, they are comparable, especially two cases analyzed more extensively in Section III.

Chapter Four, 'Market and Marketing Strategy', analyses the changing relation between Japanese and European multinationals in their approach towards marketing consumer products. The purpose is to evaluate whether there had been a shift in selling away from mass products towards highly individualised/ customised goods, a thesis of the proponents of Post Fordism. It will be shown that television sets are sold into a saturated market which bears little resemblance to Post Fordism; product differentiation being slight and largely cosmetic. The remaining chapters concentrate on the four case studies, and help reinforce and explain this evaluation.

Chapter Five, 'Multinational Approaches to Corporate Control', compares different approaches to controlling the UK branch plants and the relative significance and perceived performance these plants have within global market strategies. This chapter

will argue that there was a high degree of centralisation of power towards the headquarters of the plants. In the European case this centralisation was maintained through financial control, whereas the Japanese had closer informal networks which maintain power in Japan. This assertion is important as it implies that these cases tend to represent a Japanese way of doing things, management style and practices, so that one would expect to see these as ideal type cases of 'Japanisation'.

Section II contains three chapters. Chapter Six, 'The Japanisation of Production?', describes how a television set is made and explains what may be reasonably termed the Fordist principles of such television assembly. This will allow a critical evaluation of the extent to which the workplaces under study adopted and adapted key aspects of supposed 'Japanese methods' of production. These techniques include Just-in-time (JIT), Total Quality Management (TQM) and Flexible Manufacturing Systems (FMS). The evidence will show that these were medium sized batch production plants, with traditional contingency management problems of *quantity versus quality in output*. This, along with the existence of stock holding, strongly challenges claims of Japanised forms of production arrangements.

Chapter Seven, 'The Organisation of Work', looks at working conditions, the organisation of work and details of the jobs different workers undertake. The chapter outlines how far such working arrangements can be seen as different in general terms from other 'blue collar' work in the UK. The chapter demonstrates dual features of 'Taylorist' style job segmentation and deeply entrenched gendering of job assignments.

Chapter Eight, 'A Flexible Organisation of Work?', extends the review of flexible production to assess the evidence of labour flexibility. The chapter looks at forms of functional and numerical flexibility, their use and limitations. It shows that, whereas there was a long tradition of numerical flexibility for jobs done predominantly by women, functional flexibility did not exist, and may even have been discouraged within the case study plants.

Section III comprises three chapters. Chapter Nine, 'Worker Attitudes to Company and Management', examines workers' views of their bosses and their image of their employers. The focus is on whether workers identified their own interests as being the same as the company's, indicating 'Japanese type' harmony, or whether they displayed what is assumed to be a more traditional British worker attitude towards capital. It will be shown that an atmosphere of 'them' and 'us' was prevalent in both the European and Japanese cases.

Chapter Ten, 'Worker Attitudes to Labouring', extends the discussion from the previous chapter to examine how women and men saw their jobs and how their jobs fitted in with their expectations. The chapter is essentially a study of whether alienation or enrichment of jobs adequately describes working in such television assembly factories, and will show that worker alienation from repetitive and deskilled work was commonplace on the shopfloor.

Chapter Eleven, 'Employee Resistance and the Role of the Unions', looks at the organisation of unions in the various companies and critically assesses the role they

played for management and workers. The aim of the chapter is to identify management strategies towards labour and to examine the level of overt conflict displayed within each plant. The degree to which these relations changed over the previous 10 to 15 years provides evidence of the extent of any 'new realism' within unions and how far this may be attributed to 'Japanisation'. This chapter provides concrete evidence from workers of both a conflict of interests with management and low esteem for their union. However, overt demonstrations of these conflicts were not prevalent in collective forms, historically a common feature within this kind of industry.

Finally, Chapter Twelve provides the conclusion to the thesis. It assesses how far models of Japanisation and theories of changing industrial relations are applicable to an economic sector dominated by Japanese multinationals. The main argument is that the claims for some new labour process paradigm are inappropriate, and that industrial differences need to be considered when analyzing the character of collective labour. The evidence taken from each chapter allows an assessment of the adequacy of existing theories and provides a basis for constructing a different explanation of the employment relationship in an important industrial sector of the UK economy during the 1980s. It will be shown that there is little evidence of 'new industrial relations' but that there is a good deal of reaffirmation of earlier case studies of labour process and gendered experiences of work, set within a multinational context.

LIMITATIONS OF THE THESIS

It is important to note the parameters of the research and point to some of the consequential limitations. In this thesis the prime concern is to address the question of what 'Japanisation' means in practice in the UK. As a consequence it does not examine television assembly operations in Japan, though this would have allowed some exploration as to why the whole mythology of Japanisation has arisen. Although the author has done research in Japanese consumer electronics, it was felt it would widen the thesis too far and not allow sufficient depth of analysis of the plants located in the UK. The thesis is, therefore, not able to question whether Japanese practices have been imported to the UK; it is concerned to evaluate the extent to which theories that others have constructed adequately explain practices operating in plants owned by the Japanese firms.

A second issue which could have been the focus was the gender composition of the workforce. As noted and considered in the thesis, 60 percent of the shopfloor workers in each plant were women. This obviously raises major questions about the gendering of work in the industry, but, although some comments are made about this, there is no claim to provide an adequate analysis of these issues or to engage directly with the feminist debates around such matters. However, subsequent chapters will show that there is nothing peculiar about the way that the Japanese case plants manage issues of gender as compared with the European plant.

Finally, a potential criticism of the thesis relates to the choice of Koburg as one non-Japanese plant to represent western style management, as a methodological

'control' with the Japanese cases. This plant changed substantially both in terms of ownership and in the organisation of the factory floor. Thus it might be argued that Koburg had been forced to copy best practice from the Japanese in order to compete in product markets dominated by Japanese firms, and can no longer be treated as a 'control' case. It will, however, become clear from the evidence that the Japanese plants themselves varied in important respects, and that in this context the thesis does not simply contrast Koburg with the Japanese. For example, it was a Japanese case, Kohashi, which provided the richest evidence of the problematical character of the restructuring of operations and the concentration of production at a 'greyfield' site. Thus comparisons seek to identify similarities across all four cases and differences among the Japanese firms as well as significant contrasts between Koburg and the three Japanese enterprises. In these respects Koburg proved an ideal point of reference for comparisons with the different plants in South Wales.

CHAPTER TWO

JAPANISATION OF THE UK LABOUR PROCESS?

INTRODUCTION

The purpose of this chapter is to describe what is commonly meant by 'Japanisation' and then to reorientate theoretical discussions to provide a basis for this thesis, thus, the chapter is divided into two sections; A and B. The main theme of debate on the subject has been to explain Japanese inward investment in the west and its consequent effects. Section A, 'Japanisation of the Labour Process - theories and models', traces the common threads among some of the diverse analyses of such 'Japanisation', to show how these are informed by a set of theories about political economy, and to identify key issues which will be addressed in detail later in the thesis, with reference to case-studies. Thus, rather than using a specific thesis about 'Japanisation' as the starting point for this research, commentary on these arguments serves as a basis for a range of specific comparisons. Section B reorientates the debate to consider a different way of considering the nature of Japanese multinational investments in the UK and the labour processes within the consumer electronics industry.

SECTION A: JAPANISATION OF THE LABOUR PROCESS - THEORIES AND MODELS

The term 'Japanisation' conjures up a set of ideologies and perspectives of work, life,

education and so on, which are imposed as holistic descriptions of Japan, and the essence of being Japanese. At the centre of this ideology is an argument about a set of relations around work which are seen by proponents of Japanisation as typifying Japan.

This section will start by looking at two contrasting interpretations of what are claimed to be the core features of Japanese work organisation, and will then review two influential typologies which have been used to characterise different degrees of 'Japanisation' among transplants and imitators overseas. Finally, the section will explore several ways of looking at 'Japanisation' as particular sets of relations between employers and employed, by reviewing both the approach at Cardiff Business School, which is explicitly conceptualised in these terms, and other more general arguments about flexibility which trade on a more implicit comparison with Japan.

Japanese industrialisation as a context for arguments about 'Japanisation'

The study of Japanese capitalism is a relatively recent preoccupation of business schools in the west, since the crisis of capitalism within major 'first-world' countries brought about by the oil shocks of 1974 and 1978. Attempts to understand how Japanese capitalism, which has historically been heavily dependent upon imported oil, managed to cope better with these oil shocks than their western counterparts, led to a historical analyses of Japanese post war capitalist development. There are essentially three schools of thought to explain Japanese success. The first emphasises the distinctive cultural roots of religion, family, education and ethnic purity; the second highlights structural characteristics of business-government relations, which result in

protected domestic markets, government supported exports, and the treatment of big businesses as social institutions; and finally the third stresses organisational prowess and clever management, which exploited the late economic development of Japan to learn and borrow from other countries, to form a cocktail of expert management techniques embedded in a hierarchy of businesses from the big to the self employed. These three schools of thought overlap in places but their foci underpin all explanations of Japanese industrialisation.

As Japanese capitalism has become more multinational in nature, cultural and structural explanations seem to be disproved as adequate explanations of 'the Japanese economic miracle', as they rely on unique characteristics of Japanese society. Instead, organisational and managerial explanations have been developed which equate (a) post-war capitalist development with (b) Japanese multinational management, leading to (c) emulation by capitalists in competing countries. Although this thesis is concerned with (b) and (c), a brief consideration of (a), Japanese capitalism, provides a context for later discussions, and I will provide this by reviewing two models, of 'Fujitsuism' and 'Toyotaism'.

These models offer two rather different characterisations of domestic Japanese business practices - the first generally positive and optimistic, the second more critical - as a basis for more general arguments about the respects in which these practises may involve novel features and may be generalisable across Japanese and other multinational operations. In these respects they are influenced by the broader debates about Fordist and Post Fordist regimes of production, which have grown particularly

out of the work of the French 'Regulation School'. Contributors to these debates have sought to theorise the historical development of capitalism in terms of distinctive forms of labour process, market relations and wider regulatory institutions, with marked transitions between such forms based on struggles between class groups (Hirst and Zeitlin;1991;17-20). The basis of the theory is that there has been a break-down in mass factory production, which involved workers lined up along conveyor belts assembling the same product all year long. This crisis and decline was in part caused by worker unrest or decline in motivation, which resulted in a loss of productivity. In response to this a new form of work organisation is needed, which is termed Post Fordist. The theory then explains how this fits into a historical view which starts with feudalism, then capitalist machinofacture, then Fordism and now Post Fordism. Protagonists of this approach generally claim that Japan has developed beyond the Fordist stage of production, into the realm of Post Fordism, and from this perspective the arguments about both the character of Japanese innovations and their dissemination across the globe become claims that 'Japanisation' represents a fundamental transition in the organisation and regulation of capitalist production.

Fujitsuism

Kenney and Florida (1988) provide a version of this argument which sees the foundations for such a transition in the post-war period in Japan. Their argument is that in order to crush the unions in the radical early post-war period Japanese management conceded crucial parts of their demands in exchange for cooperation, though only after bitter struggle. Presumably, this is why the radical unions dropped in popularity and workers joined the 'new unions', supported by management,

although this is not stated. Historically, the new unions bargained and 'won' concessions, the old unions were smashed, radical students were thrown out of universities and leftists were murdered. However, though they highlight class conflict as the paradoxical basis for a new phase of capitalist development, Kenney and Florida skip over these details in their general invocation of post war 'struggle'. Thus they suggest that these very concessions coincidentally allowed for the rapid expansion of the Japanese economy underpinned by life time guaranteed employment. At this point they fall back on traditional arguments that if a person is given employment security this will mean that they are flexible, though in their view this arises from a class accord, defined in terms of mutual benefit and responsibility, rather than from a cultural unitarism.

Among the many weaknesses of Kenney and Florida's analysis, the most striking must be the complete lack of analysis of the continuing role of job insecurity and numerical flexibility and the possible effect that might have on the social relations within the factory. However, an advantage of the Kenney and Florida approach is that it has an element of dynamism: if management do not keep their side of the bargain the accord will break down. Moreover, the model is exportable, and indeed Kenney and Florida (1988) see it as desirable for workers, who will demand that US capital, for example, should adopt Fujitsuism. From this perspective the shared benefits and transferability of such 'Fujitsuist' practices help to explain their popularity among capitalist employers and employees.

For Kenney and Florida the basis of Fujitsuism is a class accord which underpins

information sharing, trust, problem solving and just-in-time production methods (all features which will be discussed later in the thesis). Their argument is that the economic world is coming to be dominated by Fujitsuism, with an order that parallels that around Fordism. Thus Kenney and Florida (1988;147) conclude:

Japan has moved beyond Fordism. It currently stands at the centre of a far-reaching process of technological and economic restructuring that will affect both the future trajectory of the international economy and the position of nation-states within it as well as the role and well-being of workers in yet another phase of capitalist development.

The implication is that those who are slow to copy Japan will be doomed to economic backwardness, the second world of the age of Japanisation. Behind this line of argument is the view that there is a form of global Japanisation which spreads with Fujitsuism, just as the economic power of the US has been associated with the development of Fordism, both as a production technology, and a culture of labour discipline and consumption. Thus, Japanisation becomes a term to describe both a technical and a cultural process of 'un-westernisation', involving Japanese hegemony as well as Japanese production methods.

Toyotaism.

An alternative account to that of Kenney and Florida is that offered by Dohse et al (1985), who seek to show that 'Toyotaism' is merely a more despotic form of Fordism. They explain how workers themselves assist management in their own subordination and ask "why do workers accept this level of control?" (1985;133-4). Their answer is also classic: the formation of this subordination depends upon dividing workers, with some enjoying a core status which also brings company

dependence, but with the core workers themselves divided through individualised merit pay. Dohse et al emphasise that the independent unions were crushed in the early 1950s and that the new company unions are neither resistant nor collective.

Thus Dohse et al (1985;140) comment that:

Lacking collective forums for articulation of their interests, Japanese workers must resort to other means to accommodate the pressure that results from work requirements and labour deployment policies in the plant. This is the key to understanding the 'peer-group-pressure' for presence at work and job performance.

From this perspective the cooperative work community and flexibility comes from this "peer group pressure" allowing "hardly any limits to management prerogatives" (1985;140).

While in some ways this account captures the constraining features of Japanese employment relations more adequately than Kenney and Florida, it has a number of problems. Firstly it fails to explain why employee involvement does not extend to production control, as in immediate post war Japan (see Moore; 1983)¹. Second, they do not explain why management trusts workers to put pressure on each other to work and help in the innovation process of the company, yet does not trust them to vote for the 'right' union candidate. Put another way, Dohse et al are trying to argue that

¹ In fact, these periods of isolated production control were not organised by the unions but represented a spontaneous collectivism out of which radical unions formed. There have been many cases of worker resistance, even with independent unions denied them. Moreover, unions can only coordinate and channel collective action - they do not cause it. Thus stating that the radical unions were crushed after the war and that the new unions are rigged (Dohse et al 1985;135, 139) is not in itself enough. Moreover, they do not explain why unions seemed to be growing in power between the early 1950s and 1974.

management works simultaneously at both ends of the consent - control continuum, but have not adequately explained how these features mesh together.

Whereas Florida and Kenney regard Fujitsuism as an exportable model, the notion of Toyotaism is more strongly tied to the specific historical and social circumstances in Japan. Thus, this variant of Fordism is only seen as exportable if labour is weak and there is no welfare state to provide workers with a safety-net, if made unemployed. On the one hand this highlights the importance of wider social conditions and institutions in any internationalisation of Japanese production, but on the other hand, it may underplay the extent to which social changes in Britain and elsewhere could sustain variants of Toyotaism².

The next section will introduce an alternative way of analyzing the introduction of Japanese direct investment into the UK, which concentrates on actual activities in the local plants and explores differences between industries and within organisations.

² While the arguments about Fujitsuism and Toyotaism use the language of regulation theory, they are also underpinned by a belief that Japanese post-war history is unique. Indeed even those who are deeply critical of Japanese capitalism, such as Kato (1988), Dohse et al (1985) and Sethi et al (1984) recognise the dynamism of Japanese capital. There are, however, a number of texts, such as Esaka (1984) and Dore et al (1989;38), which identify limits to, and predict an end to, the strength of Japanese capital, though this itself is not a new phenomenon. I would emphasise that Japanese capitalism should not be seen as a tightly coherent and stable entity, but remains unstable (see Taylor, 1990). In Japan it may be said that strength is not the result of dominance as such but arises from capitalism's ability, thus far, to cope with continuous crisis.

Types of Japanisation

There have been several attempts to conceptualise and assess the transfer of Japanese innovations overseas, each of which seeks to register the distinctiveness of Japanese operations and their influence on non-Japanese companies. Two influential typologies will be examined here: those provided by Sethi, Namiki and Swanson (1984), and by Ackroyd, Burrell, Hughes and Whitaker (1988).

One of the early contributions which attempted to define the influence of Japanese capitalist development in the US was Sethi et al (1984). These authors divided their discussion into two chapters: the first concerning Japanese direct investment and the second concerning the influence on indigenous companies. Both of these were further split into four categories each of which will now be explained in turn.

The first characterisation of the role of Japanese direct investment is in terms of imperialism. This (1984;183-5) is seen as akin to an organism in which the US local plant is a clone of the Japanese parent. Thus, practices are introduced from Japan intact and local workers are treated as outsiders. In fact (1984;185):

There is also the fear that if foreigners were allowed in the system, they would somehow weaken its integrity.

The cultural uniqueness of the Japanese way of managing is vulnerable if contaminated by outsiders, so the foreign workers are treated like peripheral workers back in Japan. Another consequence is that "little Japans" (1984;183) form and there is a focus not only on the parent company in Japan but on the reaffirmation of Japanese national identity.

Second, the enclave approach (1984;185-8) is where companies set up their plants in rural backwaters, usually drawing on the agricultural mentality of potential local workers. Japanese practices are imported intact but, unlike in the previous approach, the local workers are integrated into the system. Part of the reason for this integration is that the Japanese are concerned with gaining local acceptance of their operations, especially in such closed communities as rural towns. In consequence, "little Tokyos", whereby Japanese gettos of companies and expatriate residences are avoided by senior management (1984;187).

Third, in the domestication approach (1984;188-92) there is a mixture of Japanese and local practices. Sethi et al list four conditions under which this approach may be adopted. The first is where organisations enter joint ventures with local companies; the second, where organisations are well known and large, and the region invested in has strong unionism; the third, when the company's market competitiveness is marginal and could be affected by disharmony among workers; the fourth, where the product involves high technology and the company uses scarce local skilled workers, whose motivation would not fit easily into the Japanese practices.

In all these circumstances there is a process of "strategic adaptation" (1984;188) to the local environment so as to minimise possible frictions. Adoption of Japanese practices "is likely to be ad hoc and low key" (1984;189) and the system is open in terms of communication. The extent of application varies but is particularly restricted under conditions where there is strong unionism or unfavourable product market conditions. The analysis of this process then becomes quite vague, using various cases

to show differing degrees of domestication.

The final characterisation of the role of Japanese direct investment identifies a process of acculturation. In these cases Japanese transplants in the US replicate Japanese practices by inculcating the Japanese way among locals. Work and employment practices are transferred intact to all employees, as opposed to only those from Japanese culture, as marks the imperialist approach. Sethi et al (1984;193) conclude that:

The acculturation's (Sic) approach is quite bold and demonstrates a conviction on the part of the Japanese management that their system and style of management is transferable, and can be transplanted to a foreign culture and operate with foreign workers, provided careful attention is paid during the incubation and early growth period.

Sethi et al (1984;193-4) list a number of activities which the Japanese undertake to ensure a correct acculturation process, such as careful selection of recruits, recruiting workers who have no prior work experience, training in corporate ideology, and careful planning.

Sethi et al (1984;206-24) then go on to identify four approaches to the adoption of Japanese management practices by indigenous US capitalist firms, which they label cosmetic; exploitation; domestication and indigenous approaches. The first of these, the cosmetic approach (1984;206-9), describes both the majority of US firms and, in their view, "what is wrong with American business" (1984; 207). It is often a personnel or public relations sponsored initiative, involving highly a public fanfare, but with little senior management backing.

Second, the exploitation approach (1984;209-12) involves the introduction of Japanese techniques to improve productivity without any attempt to generate new forms of employee commitment. Sethi et al (1984;209) see this as a common strategy within the US, especially among un-unionised plants and where the locality is generally not historically linked with the union movement. They state (1984;210):

The primary focus of productivity improvement relates to things that can be done on the factory floor and involves streamlining the production process, improving inventory controls, and following such other Japanese techniques as 'Just-in-time' and 'Do It Right the First Time'.

Third, the domestication approach (1984;212-20) is employed where US firms suffer competition from Japanese capital. The form this takes varies from poor quality to pressure for joint ventures with Japanese inward investors. The result is to adopt aspects of the Japanese model which are not just concerned with productivity as such, but also introduce ways of generating employee commitment.

Finally, the indigenous approach (1984;220-4) rejects the view that Japanese practices are being adopted. They write (1984;220) that:

A number of US corporations have long followed management and employee relations practices that bear a striking resemblance to those associated with the Japanese companies.

These companies are often viewed as the exemplars of good US capitalism, with strong paternalist employee relations, but Sethi et al (1984;222-3) do not share this view. They argue that at core these firms still remain exploitative and manipulative.

The first implication of these categorisations is that the typologies for local and Japanese firms are different, reinforcing the idea of the uniqueness of Japanese capital. Thus, in the case studies within this research we can expect that, even if there are differences between the Japanese firms, a greater difference will exist between them and the European firm. The great advantage of these categorisations is that they provide an explanation for differences between cases by providing a generalised framework for integrating strategy with the social and economic environment in which the plant is located.

Another much quoted discussion of forms of 'Japanisation', using rather different categories, has been developed in Britain, by Ackroyd et al (1988). They distinguish between direct, mediated (I and II), and permeated or full 'Japanisation'.

First, they suggest that 'Direct Japanisation' (1988;16-7) occurs where Japanese firms undertake direct investment into the UK. This is likely to be an exemplary form of Japanisation because of the ownership, yet at the same time, because most investments are greenfield start-ups, they may not provide reliable guides to measure local forms of change, characterised as Japanisation. Moreover, Ackroyd et al (1988;17) emphasise that such firms represent only a small proportion of overall direct inward investment to the UK, and go on to suggest that:

If 'Direct Japanisation' is to be the researchers' analytical focus of attention then the evidence suggests that this is not at present of great significance in contemporary Britain.

Thus they tend to dismiss this form of Japanisation as rather irrelevant, unlike Sethi

et al (1984), although they admit that in the future the growth of such investment may change the relative worth of studying Japanese subsidiaries. However, their comment is ill thought out as a guide to what to research, because the study of such Japanese owned local plants illuminates the conditions workers must endure in such plants as well as their connections with local industry, and thus provide a marker against which to measure the other forms of so called 'Japanisation'.

Second, 'Mediated Japanisation' (style I) (1988;17-8) concerns local companies that adopt Japanese practices either in the form of selective bits to be integrated with existing methods or as "more comprehensive change encompassing both employment and working practices" (1988;17). However in this connection they emphasise that many practices adopted as Japanese have little history in Japan (such as pendulum arbitration) and others prevalent in Japan are "conspicuous by their absence" in Britain (1988; 18). It is noteworthy, however, that in this connection Ackroyd et al (1988) quote plants of Japanese origin to prove their case, thus blurring their own distinction between this approach and the Direct one.

Their third pattern, 'Mediated Japanisation' (style II) (1988;18-9) is akin to Sethi et al's (1984) indigenous approach but with the added dimension that these local practices are introduced under the guise of Japanisation. This is exemplified by the auto industry, although Ackroyd et al (1988;19) note that according to Marsden et al (1985):

Within the British car industry there has been no major attempt to copy the system of labour relations characteristic of Japanese firms and indeed, its feasibility and/ or desirability is doubted.

Ackroyd et al point to the fact that many of the changes which have been justified by the rhetoric of Japanisation were brought in under conditions of crisis within companies and enterprises. A significant objective was to create a committed and involved workforce through changing labour attitudes. It should be noted, however, that it is not clear how successfully Ackroyd et al have disentangled the facade of 'Japanisation' from examples of the practical implementation of selected Japanese techniques.

Fourth, they refer to 'Permeated or Full Japanisation' (1988;19-20) to identify a reverse model of development in which British structures and practices start to emulate those in Japan. This viewpoint is evidenced in Dore's early (1973) and more recent (1989a) work, as well as, more problematically, in much of the Cardiff Business School literature. However, given the holistic definition of transfer posited by Dore it is little wonder that Ackroyd et al (1988;20) find little evidence of this form of Japanisation.

These categorisations indicate different forms and degrees of influence of Japanese capitalism within the west. At a more sophisticated level, they also identify choices of approach towards changing indigenous customs and practices in the west. However, these typologies tend to assume a clear-cut Japanese model arising from the 'unique' and 'inherently superior' managerial practices of Japanese multinationals. These practices appear to be seen as the components of a coherent, static and closed system, which is then used as a benchmark against which to measure convergence or approximation by indigenous enterprises. Finally, divergences from the model tend

to be construed as compromises forced by the intransigence of indigenous institutional complexes or entrenched business practices. The analysis of Japanese transplants in the electronics sector seeks to escape from these assumptions by building on direct empirical research which treats aspects of the Japanese model as a checklist for observation, but does not presume that these features will be present or that they will cluster as the models imply.

The implication of these typologies for this thesis is threefold. First, the environmental context of labour and product markets in which the firms operate need to be considered, as these will impact on the particular menu of practices used in the case plants. Second, the most important criterion for determining the extent of Japanisation is the form of ownership, so that the Japanese firms will better exemplify Japanisation than non-Japanese firms, given the same environmental context. Third, there is a unilinear pattern where Japanese practices are brought in as best practice, and that because of the different context in the UK, the full-blown importation of Japanisation will thus be rare. This thesis, will develop a critique of such typologies through an analysis of the labour process in the case-study plants.

Business economic studies of Japanisation

Some studies of overseas investment by business economists have focused specifically on categorising that which is transferable from Japan. Dunning (1986) argued that the existing competitive advantages of Japanese firms were largely ownership and location specific - consisting of manufacturing capability, integrated supplier relations and a cooperative and willing workforce in Japan - and therefore, transfer of comparative

advantage may be difficult. Nevertheless, Dunning concluded that transferability of manufacturing, labour and supplier competitive advantages were achievable, largely because of the location of transplants on 'greenfield sites'. Dunning (1986;165) also added that another:

... reason may be that over the past ten years the industrial relations climate has, for the most part, improved.

Another commentator, Trevor, followed a somewhat similar trajectory from an emphasis on uniqueness to a focus on possibilities for transfer. Thus Trevor (1983) divided practices into 'hard' systems (technology, products) and 'soft' systems (social relations, education, conscience). He concluded that, although overall transferability was possible, Japanese managers were reluctant to engage in multinationalisation because of the different 'soft' systems in the west and a cultural insularity among Japanese. Thus, Japanese capital was caught between the necessity to engage in direct investment in Europe and the cultural inheritance of insularity.

However, White and Trevor (1983), in another text which showed how British managers emulate Japanese employment practices, inadvertently demonstrated that British workers were willing to adopt Japanese working practices, such as flexibility (1983;127-8), but were not given the compensatory benefits received by Japanese blue collar workers in like plants, namely: life time employment, fringe benefits and seniority based wages. This suggests that selected transferability of practices which would ensure work intensity is possible.

Finally, five years later Trevor (1988) was far more convinced of the ability of the

Japanese to be 'successful' in direct investment in Britain. In this study he focused on the competitive advantages of Toshiba which, he argued, provided four 'soft' systems: vision, leadership, pragmatism and the right people (1988;234), which, he claimed, "had been the hallmark of the best Japanese practice since the [Second World] war" (1988;233).

These business economic studies of transplants have seen the exportation of practices from Japan as straight transfers. Abo (1990), however, introduced a contrast between 'adoption' (straight transfer) and 'adaption' (customising Japanese practices for local conditions) by overseas manufacturing subsidiaries. His research findings lead him to conclude that certain features are easier than others to adopt. What he calls the fruits or results of Japanese labour management relations, such as production technology, are more easily adopted than people related practices. However, where a higher degree of reliance on workers is needed (in terms of skills, quality consciousness, etc) more people-related Japanese practices are adopted. For Abo, this is characteristic of auto factories but not of television assembly, because the latter does not require committed workers, who would exercise diligence in trusted positions, where they enjoy a degree of autonomy.

These differing arguments focus on the practices used by Japanese multinationals in their transplant operations. As such, they suggest how and why some practices are used within the UK manufacturing subsidiaries and why other practices are not. However, they do not really provide a methodological framework for the analysis of such patterns because they avoid discussions of the nature of the political and

economic relations - the political economy - which conditions management policies in Japan itself, and provide little analysis of the complexities of the political economy within which the subsidiaries are located, except at a level of generality which is potentially misleading. Moreover, except for the work of Abo (1990), these studies give little consideration of the reasons for differences between overseas subsidiaries.

This kind of work shows that Japanese overseas plants are managed based on what is needed to be transferred to make the local plant profitable. In other words, instead of 'Japanisation' there is selected use of Japanese management practices to 'solve' local problems where they are applicable. As a result practices differ between industries and even between companies, although such authors tend to concentrate on the former differentiation. The problem with this work is that all discussions are about Japanese management being proactive in the employment relationship over local managers, workers and unions, something which needs redressing within this thesis.

The implication of this approach to understanding Japanese transplants for this study is to consider the terrain between pressures for centralised or localised control of the plants within a multinational context. Within this, the number and role which expatriate managers play within the cases may be seen as important indicators of where control lies. Moreover, there are a set of issues around how far this corporate control can be seen as strategic or merely reactive to local conditions and markets.

The Cardiff Business School approach to 'Japanisation'

Turnbull (1986) is credited with being the first academic to use the term

'Japanisation', at least in the context which it is now commonly used in the UK. This was while he was still at Warwick University, though he moved to Cardiff Business School soon after, and this is now the centre for studies of 'Japanisation' in the UK, measured both in terms of output and research staff. Turnbull (1987;2) argues that to understand the significance and transferability of Japanese management practices research must be concentrated on non-Japanese firms claiming to adopt such practices. Thus, he studied a part of Lucas where they tried to introduce a JIT (Just-in-Time) system. He does not provide an analysis either of Japanese companies or overseas plants owned by the Japanese, but rather assumes that such companies have just-in-time management.

Oliver and Wilkinson (1988) develop a more complex argument than that of Turnbull, though they too focus on the tension between JIT, as an assumed feature of Japanese production, and existing patterns of social relations within the British workplace. Their starting point is that work practices in Japan are so different that the process of 'Japanisation' cannot be seen as a generalised process of transfer but must be understood in terms of an analysis of specific constellations of managerial processes and practices implemented in particular circumstances. Against this background, their key claim is that (1988;3):

The evidence we have collected suggests British industry is undergoing a fundamental transformation, the nature of which is neatly captured by the term 'Japanisation'.³

³ Oliver and Wilkinson (1992) are more equivocal about the success of Japanisation practices than the authors were in 1988. This equivocation stems from a second survey, issued four years later than the one used as the empirical substantiation for their claim for Japanisation. The latter survey showed less use of, and less successful

This claim is, however, elaborated in a quite complex manner (1988;29-43) by arguing that JIT, as the core technique of Japanese management, creates a set of mutual dependencies between labour and capital at the level of the firm. Such dependencies arise from the devolved process of decision-making within the enterprise, but this also means that there is an incentive for management to integrate workers into the on-going process of change.

This integration supports a flexibility in production which can be responsive to market needs as well as meeting scheduling requirements. Central to the JIT practice is 'stockless' production (Wilkinson and Oliver; 1988;48). The significance of this is that the absence of a stock carry-over makes management dependent for output on workers who do not make mistakes and who complete work on time. At the same time, workers are dependent on management for employment and income and, it is claimed, more satisfactory work relations (Oliver and Wilkinson;1989).

Overall this means that the integration of work as well as supply relations makes both the workforce and suppliers dependent on managerial discretion. At the same time, management is unable to substitute different elements of the production process because of the high degree of integration - thus Oliver and Wilkinson emphasise that there is mutual dependency.

application in, so called Japanese practices than the earlier survey. However, they argue that this merely slows down the timetable for the Japanisation of British industry, rather than lead them to question the basis of their analysis.

In this literature the term 'Japanisation' has become a label for the successful introduction of this system of production relations. According to Oliver and Wilkinson, it is a process which involves both internal and external dependencies. The key implication of this argument is that accounts which refer only to the transfer of specific managerial techniques and work practices, without addressing the conditions which may nurture or subvert co-operation and support dependency, are inadequate and misunderstand the process of Japanisation.

Despite the attractiveness of this more complex characterisation, which injects active labour into the analysis of Japanisation, as represented in production relations, there remain a number of serious problems with the Oliver and Wilkinson thesis. Pang and Oliver (1988) focuses on life time employment, seniority based wages, in-house continuous training, company-based welfare schemes, enterprise unions, and quality oriented production-methods (quality circles, total quality and just-in-time). What this leaves out of the account are the various mixes of such features found in different firms and sectors⁴, but more importantly, the fact that the bulk of the workforce, in small and medium sized enterprises, fall outside this pattern of core employment and innovative work practices.

Second, this characterisation of the Japanese model of production organisation and its institutional and cultural supports suggests a highly problematical yardstick for

⁴ Storey (1985) argued that the essential process of management is that of making choices between competing alternatives, and that the final choice is contingency, neither strategic nor static. Thus, a list of practices does not really explain management itself.

assessing the activities of transplants and adopters. By identifying a uniform and coherent bundle of Japanese management innovations it tends to imply that the transplants must be very close to the real Japanese model, whilst other enterprises which seek to adopt Japanese methods can be assessed against the yardstick of the transplants.

Thirdly, there is a major methodological problem which reinforces this process, namely the heavy reliance of Oliver and his colleagues on questionnaire data to locate the presence or absence of different components of the bundle of management innovations. Using this research method does not allow the researcher to discriminate between management rhetoric and reality, and tends to run together enthusiasms, proposals, plans and successful implementations. It also tends to treat the various components of such innovation in isolation, despite their concern to emphasise the interconnections and inter-dependencies between them.

Fourthly, the one-sided characterisation of Japanese practice in Japan is combined with the way in which this practice acts as a yardstick so it is implied that Japanese capital is superior to western capital, in ways which are to be admired and copied by the west. There is an emphasis on the benign and beneficial character of Japanese production methods and employment practices, though these may be laced with a certain equivocation in acknowledgement of the critiques of employee subordination and management by stress.

Finally, the very characterisation of the model and its use as a yardstick of

Japanisation implies that non-Japanese firms in competition with Japanese enterprises will be pressured to move towards the "good practice" of the transplants. This not only treats Japanese theory and practice as homogenous but also ignores the possibility that such indirectly induced changes may have no parallels in Japan. This again underlines the narrowness of a conception which focuses on the transfer of Japanese practices.

The Cardiff thesis is clearly an important contribution to the debate within the UK about Japanisation, so that their core contentions must be closely assessed within this research. In particular, the existence or otherwise of JIT, quality management and the particular sets of mutual dependencies between labour and capital need to be explored. This needs to be done through a careful consideration of each side's perspective on relations within the plants.

A context for Japanisation diagnoses: more general arguments about the flexibility of labour and production

A key feature of the literature on 'Japanisation' is its emphasis on the necessity and the ability of workers to adopt flexible working practices, but in this respect this literature converges with several other sets of arguments and debates about the character of contemporary changes in work organisation; in particular those surrounding the notion of flexible specialisation and the model of the flexible firm.

Both these discourses emphasise the importance of flexible workers to facilitate flexible production to serve diverse and changing markets. Both the flexible

specialisation and the flexible firm analyses assert that there are changes in world markets which mean that traditional, Fordist, production methods have become inappropriate. Instead, the market has become so fragmented that small batches of production are needed, responding to changing and fluctuating market demands. This in turn requires a more diverse and (at least in part) multi-skilled workforce, and a considerable degree of organisational flexibility. Whereas the flexible firm model is basically concerned with the ways in which these features are attained, through the reorganisation of relations between the labour market and enterprises and the extension of segmented labour markets, the flexible specialisation approach emphasises inter-relations between enterprises and the ways in which these can form mutually supportive geographical clusters.

This section will focus specifically on the flexible firm model, to illustrate the manner in which the theme of *flexibility has been pursued beyond the literature on 'Japanisation'*. Moreover, because this model has been very influential among British commentators and managers, at least at the level of rhetoric, it deserves to be considered in its own right in relation to the empirical evidence collected for the thesis.

Atkinson, credited with popularising the flexible firm model, defines some very specific and reasonably detailed structural specifications for a firm to be fully flexible.

Thus (1985:3):

The twin purpose (of the periphery) is to protect the core group from numerical employment fluctuations while conducting the host of non-specific and subsidiary activities which all organisations require and generate. The core group is required to be functionally flexible;

the numerical flexibility secured from the use of peripheral groups provides the core group with employment security as the basis of their functional flexibility in the face of change.

He gives three reasons why pressure has come about to encourage such changes in work arrangements (1985;7-9): the recession; accelerating technical change; and a reduction in overall working time of employees. There are also three factors encouraging a move towards flexibility (1985;9-10): high unemployment has reduced the need for labour hoarding due to fears of skill shortages; job seekers, and even existing employees in small firms, are more prepared to accept poorer working conditions; and industrial relations are going in favour of management as union influence declines. He then identifies some contradictory consequences of these developments as (1985;4):

The impact on employees is likely to be divisive ... We envisage no necessary incompatibility between management and union aims for core workers, however.

This results, then, in a number of divisions of labour, not by department, but by "functional flexibility" and "numerical flexibility". Numerical flexibility is not an appendage but integral to the overall model. What was community now becomes open division; the core elite is divided against, and stands above, the periphery and the different forms of non-core worker compete with each other. Functional flexibility is enabled because the cream of the 'skilled' and 'intelligent' are the only ones allowed in.

The Atkinson model of the flexible firm, composed of core and peripheral workforces, has been strongly attacked by radical critics. Pollert in particular has

developed both an empirical and a conceptual critique which leads her to conclude that the significance of the 'flexible firm' comes only from its role in a "very powerful ideological offensive" (1987a;38). Pollert highlights a range of empirical shortcomings, including the conflation of different sorts of job insecurity and different sectoral trends, a misreading of varied and shifting management tactics as coherent management strategies, and an over-optimistic characterisation of the conditions of core workers. For example, she identifies problems in trying to understand the character of skill and job satisfaction among core workers. It seems clear that there is no adequate empirical basis or theoretical reason to equate flexibility with 'enriched workers'. Pollert (1987b) also indicates that where flexible employment practices do exist it is often the women who experience insecure peripheral jobs, so that contemporary changes in employment patterns are strongly gendered. This issue is particularly relevant to this thesis, with the case studies having high proportions of women on the shopfloor. Having reviewed the empirical shortcomings of the Atkinson argument she concludes (1988;16) that:

...it does not provide evidence for the growth of the 'flexible firm', in spite of attempts to make the facts fit the model.

Pollert then turns to conceptual criticisms (17-21). First she emphasises that the core/periphery contrast is not new. Furthermore traditional ideas of skills are male dominated and merely continue old divisions among workers. Finally, she discusses the analytical pitfalls in mixing description, prescription and prediction. In this connection she argues that (1988;18):

A duality between sweeping generalisation of a trend, on the one hand, and immediate qualification - bordering on retraction - characterises

the model from the start.

Overall Pollert (1987b) argues that there is no foundation to Atkinson's claim that there is evidence that the 'flexible firm' is already in existence in Britain. However, she does believe it has a strong persuasive power with managements, leading them to explore ways of moving towards the practices it extols and to legitimate things such as unemployment in such terms (1987a). Thus she suggests (1991;24-31) that there is a political ideology behind this interpretation of changes, which operates to cover the realities of worsening labour conditions under a facade of (1991;30):

...post-industrial visions of progress and functional equilibrium.

Hyman develops a related argument in his critiques. Firstly, (1988;50) he raises questions about the extent and the coherence of the practical implementation of the dramatic changes in employment relations envisaged in the flexible firm model. He emphasises that the internal coherence of management processes cannot be assumed a priori. Indeed, he notes that even Piore and Sabel (1984;14) agree that:

Many firms (even without government intervention) would have trouble mapping a comprehensive strategy for the future.

Finally, Atkinson himself acknowledges that (1985;3):

In our view such (numerical + functional flexibility) changes areas yet pragmatic and opportunist, rather than driven by conscious strategy.

Hyman suggests that underlying this are two problems for management. Firstly, there are divisions within management structure by levels and departments. Secondly, consent and control are opposite poles which cannot be fully reconciled. The result

is that "there is no one best way and all are partial failures" (Hyman;1988; 51).

Another line of criticism developed by Hyman is that even for those fortunate enough to be core skilled workers inside the company "the fortress may be a prison" (1988;53). He argues that this is because when some firms go under, some workers are marginalised in the labour market and have difficulty finding a new job, because these workers have firm specific skills and also because younger cheaper workers become available.

Thus Hyman posits a *different picture to that provided by Atkinson, where, instead* of firms becoming flexible under pressure, they just go under (1985;9). The workers in such enterprises he calls 'endangered primary workers'. Though he sees forms of functional flexibility existing in *company hierarchies between levels of managers* (1988;56), less powerful groups of workers are vulnerable as fashions in the product market change. In summary he suggests that (1985;11):

In short, the main effect of the recession on primary workers is not through changed labour markets conditions; the reserve army of unemployed does not act as a competitive force undermining established conditions. Rather, it is changed product markets (or politically defined proxies in the public sector) which generate a (perceived) threat of job loss through closure or radical contraction of operations.

Finally Hyman (1991;261) suggests that in so far as it is possible to say that there has been a shift in the 1980s which adds up to a fundamental change in the nature of the employment relationship, it is the result of global shifts of markets and capital. An important element in this has been the export of Japanese capital, and a part of this

influence, Hyman argues, arises from (1991;263) "the impact of production strategies characteristic of major Japanese companies". He then goes on to list elements such as small batch, quality orientated production (1991;263-4). However, he also emphasises that, when these elements are related to issues of flexibility and the debate about fundamental or incremental change, it is important to avoid what he calls the "fetishism" of the sort of holistic theorising which is represented by models of the flexible firm or Japanisation (1991;281).

Within the consumer electronics manufacturing industry there are clearly issues of segmented labour markets with strong gender divisions. Given that proponents of Japanisation and the flexible firm claim that these practices represent new forms of employment relations within the UK, the thesis must address how far any practices found are changing, especially with regard to the specific place of women within the local labour markets, and how skill formation within the plants fits into a segmentation analysis. Moreover, this analysis needs to be placed within a context of the product market-place and how the UK plants fit into the overall supply strategy of the multinationals.

SECTION B: REESTABLISHING THE RESEARCH AGENDA

Japan ranks third to the US and UK as the largest overseas investor (Ozawa;1991), indicating that the interest in Japanese direct investment capital should be kept in proportion. It is ironic that the two countries which have stronger international investment records are the same ones which are the most preoccupied with the 'threat'

of Japanisation. Thus, in the UK, indigenous multinationals remain largely unconsidered whilst there was near paranoia about US corporations in the 1960s and 1970s and obsessive focus on Japanese inward investment in the 1980s and early 1990s. To keep the implications of this growing Japanese investment in proportion, without overstating its significance, it is important to consider how to characterise this development and to question whether this new wave of investment has any particular and novel characteristics.

This section is concerned to draw out the key implications of the literature review in Section A, to highlight the problems with the substantive claims and areas of major omission in the established analyses of 'Japanisation'. This review not only challenges the validity of these models of 'Japanisation' but also outlines an argument for a rather different approach and method of analysis which would be a more appropriate basis for exploring the nature of Japanese multinationalisation. This will then form the basis for the analysis and arguments developed in the substantive chapters of the thesis.

Japan and Japanisation

An initial but serious problem facing discussions of Japanisation has been the taken for granted nature of much of the characterisation of work and employment in Japan, to the point where 'Japanisation' debates often appear to lack interest in controversies over the features of Japanese capitalism. This in itself would be less of a problem if the literature restricted itself to discussions of Japanese overseas operations, although the term 'Japanisation' would then be misleading and ought to be replaced by a more

neutral characterisation in terms of the operations of Japanese MNC's (Multinational Corporations). However, 'Japanisation' is used by these writers in order to make explicit the relationship between indigenous Japanese practices and their transfer to the west, which then react with indigenous western practices. Japanese capital is seen as needing to transfer management practices in order to maintain competitive advantage and their investment is seen as contingent on some measure of success in this transfer. From this point of view, therefore, the study of Japanisation requires an understanding of managerial operations and styles in Japan.

Unfortunately those publications and papers which claim that Japanisation is taking place in the UK invariably offer a one-sided account of Japanese employment relations, which lacks any meaningful critical perspective and relies on secondary data, and some simply ignore Japan entirely. For example Oliver and Wilkinson (1988;7) introduce their chapter on practice in Japan by referring only to non-Japanese managerialist authors such as Pascale and Athos (1982), Wolf (1985) and Schonberger (1982), while their limited references to radical writers such as Kamata (1983) are marginalised in their overall discussion (1988;24).

Thus, where texts on Japan are used, right-wing writers, who are often management consultants, reinforce a view of the unique superiority of Japanese business, and stress its basis in cooperative labour management relations. Japanese business is set up as an ideal, on the basis of either poor sociology or wishful thinking on the part of proponents of 'Japanisation'.

In the light of these criticisms one research strategy would be to develop a much more extensive and empirically-based critical assessment of the operation of Japanese companies both in Japan and abroad. Indeed, such a research strategy would be essential to fully justify the notion of 'Japanisation'. For the critics of this notion there is, however, an alternative conceptual and research strategy which comes closer to the limited time and resources available for PhD research. This is to focus directly upon an investigation and analysis of the management policies and labour process within Japanese branch plants within the UK.

Such an approach follows from the emphasis on the overseas operations of Japanese and other MNCs, and is the strategy adopted in this thesis. This does not preclude the possibility that research on the Japanese companies' overseas operations might offer insights into the distinctive character of Japanese capitalism, especially as the research gives attention to the relationship between HQs and branch plants, but it clearly focuses attention on the transplant operations of these multinational corporations in their own right. The Japanisation and flexibility debates have borrowed from practices seen as existing in Japan, but essentially they are concerned with identifying whether there are new forms of labour management relations within the UK. This thesis, is primarily concerned with critically evaluating the particular forms of relations claimed by these theories of change. As such, it is not necessary to analyze the particular sets of capitalist relations in Japan. Further, Chapter Five will demonstrate that through strong centralised control, the Japanese case plants in the UK are essentially dominated by 'Japanese styles' of management.

Industrial sectors

Japanese direct investment in the UK has generally been seen as a response to EC trade barriers and tariffs, but beyond such statements proponents of Japanisation and flexibility seldom analyze the differences between industrial sectors or product markets occupied by the inward investors. By contrast Wood (1991) has questioned whether JIT practices developed in the Japanese auto industry can be used to develop a general characterisation of Japanese production practices. As Abo (1984 and 1990) and Elger (1990) indicate, it is essential to draw connections between specific types of markets and products and the production processes dependent upon those sales. Proponents of Japanisation have over generalised from specific product markets and areas of production, allowing sweeping generalisations about what are sectorally contingent patterns of employment and forms of *production management*.

Many Post Fordist writers argue that there are no mass markets left and that specialised, flexible production is now common throughout all production. Similarly, the proponents of Japanisation suggest that distinctions between the production imperatives of different products are becoming obsolete, as JIT, or lean production, is now a generalisable innovation. However, while it may not be easy to draw a distinction between the mass markets for small hatchback cars and 14" colour television sets, it should be clear that these differ from markets for high performance sports cars and 42" specialist colour monitors. Similarly, there are important differences in the production relevant characteristics of different products: for example quality management is more important in the car than the television, as refunds under guarantee may be conservatively estimated at 50 times greater for the

car manufacturer than the television producer. Again, the number and size of components in a car is much greater than in a television, effecting the importance of stock management. Thus, distinctions between industrial sectors are essential for any study of management practices.

Furthermore, there is room for differentiation not only between industrial sectors but even within sectors, through price, image and product content, so that a 14" Sony television is more expensive than an Hitachi of the same basic specifications. With these considerations in mind, this thesis concentrates on one industrial sector, and is thus able to explore (i) how differences in market positioning even within a sector can effect the control of work, and (ii) whether JIT and similar production innovations are generalisable phenomena among Japanese multinationals beyond the motor sector.

Corporate structures and strategies

Studies of Japanese plants operating outside Japan have often been divorced from any examination of the overall organisation of Japanese multinationals. This precludes analyses of the varied character of such relationships, as they may condition changes in the labour process of transplant factories, and it also excludes any attention to the ramifications of globalisation for the workers and unions in the home plants in Japan. The studies by Trevor (1983) and Dunning (1986), however, did make connections between the structures of Japanese conglomerates and their closely associated (keiretsu) groupings of companies and the difficulties which these companies faced when locating abroad, where they lacked the mutual support which arises from such groupings. Proponents of 'Japanisation', though, have concentrated on the process of

transfer, rather than the structures used. Thus, their analysis of the strategies of these companies is restricted to the transfer and adaption of Japanese practices. They are not concerned with issues of localisation, of the role and location of regional headquarters, or how such decisions impact upon, or provide evidence for, the degree of power indigenous managers have over the labour process.

Especially in the areas of study encompassing Japanisation, and similar variants of flexibility theorising, there is a tendency to see managers as either incompetent (British and western) or 'all seeing, all knowing' (Japanese and eastern). Quite apart from the racist stereotyping in this approach, it is inaccurate. Instead, it seems more appropriate to regard management as a learning process in which managements try out specific techniques at certain times to cope with certain perceived problems. In this view site managers are the practical foot-soldiers of capitalism, too busy fighting or preparing to fight specific problems to think of global shifts or broader ideological battles. If this is so, it is dangerous to imbue their actions with strategic significance, when they are more like techniques used to solve certain problems. Moreover, it is unwise to consider that such managerial techniques are anything other than temporary, because the contradictory nature of management and changing circumstances lead to repeated trial and error. This understanding of the dynamic and contradictory nature of the process of learning to manage also suggests that the commitments of both British and Japanese managers need to be looked at quite critically. They should not simply be seen as enthusiastic proponents of Japanese practices (thus Japanisation), because the British managers may not see their long-term career within one of these firms, while Japanese managers may have distinctive priorities following their career

trajectories back in Japan.

This research seeks to address these uncertainties and contradictions through a focused and appropriate research methodology. Japanese managers at both the Japan headquarters and the transplant sites were interviewed, and also UK managers, supervisors, and workers as well as Japanese engineers and supervisors at the transplant sites were interviewed. In these interviews with managers and engineers questions about their personal careers, their attitudes to other groups, genders and races, and about job content and control structures were asked. Moreover, although the same people were seldom interviewed twice, at least a six month gap existed between visits to the UK case plants, so that different vantage points on the process of management and work experience were gained. In this way, this study seeks to avoid the unilinear and sometimes static model of management portrayed by the 'Japanisation' school.

Localities and local labour markets

Garrahan and Stewart's (1991) study of Nissan in NE England showed that the local labour market conditions of skill and unemployment were central to Nissan management's policies of location, recruitment and labour control, as they selected a factory location which offered an eager pool of unemployed male workers. Less critical studies, typified by those done within Cardiff Business School, tend to pay almost no attention to location specific issues in their claims for 'Japanisation'. Such an omission is regrettable when one considers that Japanese companies have tended to locate factories in certain areas of the UK, forming clusters of Japanese

investment.

Furthermore, though it has been a common decision for Japanese multinationals (apart from financial institutions which concentrate in London) to invest in areas of high unemployment, this still leaves choices between areas to locate. Another consideration in such locational decisions has been the high UK government incentives for investment into certain depressed areas. Nevertheless, labour markets are not static and an area of high unemployment may develop skill shortages in areas relevant to specific companies, a feature which could be exacerbated where there are high concentrations of Japanese plants requiring similar types of labour. Such considerations make it important to situate the different companies in terms of their local labour markets, and the ways in which state policies and local labour markets have evolved.

Discussions of Japanisation have tended to ignore the impact of time, rather implying that through the careful setting up of plants, with screening of recruits eager for employment and extensive training and indoctrination of employees, the initial conditions of greenfield sites will remain unchanged. However, this ignores changes in the social context in which the plants are located. Japanese plants are not, and cannot be, closed systems, as some 'Japanisation' models dictate.

Gender and the sexual division of labour

A remarkable omission of the Cardiff brand of 'Japanisation' has been the absence of any real analysis of gendered divisions of employment within the Japanese plants. Within car assembly plants mainly men are employed as direct labour, whilst

televisions are made mainly by women. Moreover, the types of jobs women do are different from those done by men even within the assembly of televisions. 'Japanisation' models do not explain such differences, perhaps because they are regarded as unproblematic because they are thought to have no bearing on what the 'Japanisation' models are showing. The problem with this is that a consideration of Japanese owned plants in the UK shows such gendered divisions as a most striking feature, which at the very least needs working into any analysis of recruitment policies and dependency relations (for an exceptional study which does consider this see Morgan and Sayer 1988).

At the most such considerations render the notion of 'Japanisation' irrelevant because an understanding of differing management policies to maintain control of production would have to address the subordination of women workers, the high levels of labour turnover among young women, sexual politics, and the gendered character of skill formations and reaffirmations. In other words, the complexities of managing different types of workers, the opportunities and limits to the control of gender divisions and the relationship between these and the external labour market, may have far more impact upon both the ability to gain efficient output and the experience of work of individuals in these plants than forms of ownership does. Quite possibly the issues of involvement, stock and quality control focused on by the 'Japanisation' literature may pale into insignificance compared to such issues.

In view of these features of the gendered character of work in electronics, the sexual divisions of labour, and how these are experienced within the workplace are discussed

as an integral part of this thesis. In particular it will show that sexual divisions have a contradictory character, so that women both assist in their subordination and challenge managerial prerogatives. However, although 'Japanisation' models can be marginalised because they do not address gender issues, it would also be inappropriate to replace one with the other as the focus of the thesis, and the major concern is to look critically at the claims about management, flexibility and the labour process found in the 'Japanisation' literature, while noting how gender gives a distinctive character to work organisation and job hierarchies.

Trade unions and their traditions

A major implication of many discussions of 'Japanisation' is that trade unions lack an effective role within 1980s and 1990s Britain. Although debates on the demise of current forms of trade unionism within Britain provide reinforcement for such claims, Japanisation models appear to assert that unions become irrelevant to everyone as managers use schemes of more direct involvement between workers and the employer. The power of management is mediated through the need to involve workers to a higher degree than is either possible or necessary with 'antagonistic' trade unions. Thus, this process is quite separate from union decline due to the restructuring of the economy and high unemployment, which informs debates within mainstream industrial relations.

In this regard it is noteworthy that the studies which have informed the Cardiff Business School model of 'Japanisation', and also Trevor's (1988) study of a company council in Toshiba, are concerned almost exclusively with consumer electronics companies. However, the fact that this industrial sector has little history

of active trade unions has not generally been considered relevant to the Japanisation model. Once this is recognised, it undermines the rather positive view of 'Japanisation' as something British labour should not fear.

The question, however, remains as to why the Japanese employers should want (a) single union deals and (b) schemes for employee involvement, if conflict on a collective basis is unlikely to occur within the consumer electronics sector? This thesis will explore the rather unremarkable reasons for such decisions. Although single union deals are commonplace among Japanese firms, the degree of encouragement given to workers to join such unions varies between companies. Further, a single union deal does not in itself guarantee a single bargaining unit. This thesis does not provide an in-depth analysis of involvement schemes, as their role appears to be merely to provide information down the hierarchy and often involved union representatives. Thus they are given limited attention because of their lack of significance in understanding power relations within the workplace.

Indeed, one could argue that the Japanisation literature exhibits an over concentration on 'the new', and that this, combined with over generalisation and over simplification, results in assumptions about labour relations which are misleading. This thesis provides a study of such relations based upon a rather different framework derived from radical labour process theories, to portray a complex, often contradictory set of relations, where unions struggle for position, much as they have always done.

Methodological weaknesses of 'Japanisation'

The 'evidence' for Japanisation has mainly come from interviews with a small number of managers and/or questionnaires distributed to workers. However, where the research concerns complex social relations and experiences, questionnaires can be quite misleading. For example, it would be difficult to explain why there are no JIT practices in the plants researched here except by case study interviewing or participant observation and discussion.

The interviewing of managers is useful within certain limits, if it is repeated and extensive in terms of time and number of managers, as this makes it possible to gain a clear idea of intentions, plans and statistical information. The limits of such methods remain that, *without cross checking with workers and supervisors, a rosy* and even false picture can be painted. This is not to say that managers would deliberately lie; rather they might think that the researcher who only speaks to them is eager to hear how clever the Japanese way is, and how, particularly the UK managers, have struggled to make this company different from the company they had previously worked for. It was found that managers would concede points and seek to justify their actions where workers had talked of conflict or management strategies. The author's experience of research in Japan also helped in this regard, especially as most British managers claimed that the author knew more about their operations in Japan than they did. This helped personal credibility as well as sharpening the general honesty of their answers.

Thus it is hoped that, through the use of a case study method, we are able to gain a

greater depth of understanding of the real operation of transplants in this sector than the proponents of 'Japanisation'. A considerable depth of understanding was gained by extensive interviewing at different times in the production year with people from various though comparable jobs at each of the case-study sites.

CONCLUSION

It has been suggested that the claims subsumed under the notion of 'Japanisation', which highlight the development of new forms of labour-management relations, rely too heavily on selective evidence, simple generalisations, and unfounded assertions. Studies of the process of multinationalisation have concentrated on the transfer of practices from Japan to overseas subsidiaries. These studies tend to be rather unquestioning about practices in Japan, assuming check lists of activities against which to compare the performance of subsidiaries. In all these discussions there are two common threads which form the core of these studies: *the unilinear direction of economic development and Japan as the starting point*. Thus, any convergence which may take place will be of western countries moving towards Japan. Moreover, these directions, although couched in differing ways, rely crucially on compliant workers, willing to accept orders without question and managers who are then free to control the detail of production. However, even in these accounts there is some asymmetry of discussion, for while JIT depends on flexibility, flexibility does not depend on JIT. Thus, Japanisation may be divided into two stages of implementation: gaining a flexible workforce and then initiating Japanese production methods such as JIT.

One major way of developing a critique of these models would be to study the nature of political economy in Japan. Another approach is to question the nature of Japanese competitive advantage by looking at how their multinationals actually operate overseas. The latter is the strategy adopted in this thesis, with the objective of providing a more accurate and sceptical analysis of many of the developments which have elsewhere been characterised in terms of 'Japanisation' and flexibility. This will be done through studying selected cases and by locating these case studies in relation to wider corporate structures, sectoral specificities, local labour markets, gender relations and forms of trade unionism, and by looking critically at claims for the coherence and novelty of management practices. However, much of the subject matter with which 'Japanisation' is concerned, such as innovations in work organisation and production methods, the management of quality, recruitment patterns, and workers' attitudes to management, unions and work, is important to consider. Although this thesis will address wider issues which arise from the claims of the analysts of 'Japanisation', its focus is on the realities of work and employment within four case study plants in the UK, three of which are Japanese owned.

SECTION I:

CONTEXT

Section I sets the scene for the rest of the thesis by introducing the companies and the case plants, and tracing the linkages between headquarters and UK plants. The focus is on how the multinationals operated and what the management structures were. The intention is to provide a context in which to understand the labour process of each of the cases by developing an analysis of the nature of the product market place, the politics of corporate structure and the relationship between the internal workings of the UK branch plants and the objectives of the conglomerates as a whole. This is done through three chapters dealing, in turn, with: an 'Outline of the Case Studies', 'Market and Marketing Strategy' and 'Multinational Approach to Corporate Control'.

There are pressures in the way the market for products changes and how the company is positioned to deal with these changes. The whole process of multinational investment in and into the west, with its comparatively higher wage costs than East Asia, has been to respond to market conditions, such as growing restrictions on lucrative markets. How the market is 'managed' directly impacts on the individual worker because of the relations between selling in the market place and internal corporate structures of control, which in turn affect workers in the UK plants through the degree of autonomy given to local management to set conditions of work. These controls involve both formal and informal processes, in which networks among

expatriates are significant. In order to understand the differences between the cases and to understand the complexities of problems facing management and opportunities for union resistance, it is important to locate the production relations of each case study within a set of pressures which *impinge upon those relations*. Thus, Chapter Three explores the location, size and basic activities of the case plants within overall corporate or conglomerate operations. Chapters Four and Five develop a theme that the larger the contribution of the plant, in terms of output and supply to lucrative markets, the more significant it will seem to the multinational top management, and the greater dependence there may be on its continued success. More significantly, these chapters trace the location of power within the case studies both within the market place, and within each firm's *multinational structure*. It will be shown that through the transmission mechanisms and the nature of control there was a strong tendency to centralise power within the cases, implying that the UK plants were branch operations of the conglomerates with little autonomy. Much of this section draws on experiences in Japan and interviews with executives of corporate headquarters in the three Japanese cases.

This kind of contextualising analysis is not generally found within the 'Japanisation' debate, except at the level of disintegrating markets, the starting point of the Post Fordists. It is however, a feature of more economic based studies, such as by Dunning (1986) and Abo (1990), explored in Chapter Two. Moreover, the following three chapters do address issues of whether there were mass markets, whether the transfer of practices from Japan was one way and whether there was a distinction between European and Japanese style corporate control. All these features have been

shown to be central claims of the proponents of either Japanisation or the uniqueness of 'superior' Japanese capitalist management. In all these respects and in all the case studies the situation will be shown to be far more complex and contradictory than would be assumed under the Japanisation thesis.

CHAPTER THREE

OUTLINE OF THE CASE STUDIES

INTRODUCTION

The primary objective of this chapter is to introduce the case studies by outlining their location, the character of their workforce, the types of production they were engaged in and the pattern of relations between local plants and central corporate management. This will provide a context for the later discussion of particular sets of research findings by providing a more rounded summary of the basic features of each research site. This chapter will also consider some of the existing survey research on electronics transplants and contrast this to this rather different research strategy, which focuses upon systematic interviews with key management, union and employee informants, supplemented with additional observation and conversations.

The first section of the chapter considers key features of the case-study plants, including what they produced, the character of their workforces, their location and aspects of their employee relations policies. The next section then places these plants in their corporate context by considering key features of the parent companies and the relationships between satellite plants and corporate headquarters. Finally there is a review of existing attitude surveys of employees in electronics plants and a discussion of the rather different research methods which were used to generate the research reported in this thesis.

PROFILE OF THE CASE PLANTS

The study focused on four case-study plants. Each was employed in television manufacture, although as indicated below, there were differences in the range of products produced, the ages of the plants and the ways in which the workforces were divided along gender lines.

Whilst all the plants were primarily involved in television manufacture, in each case there was some diversification in production as shown in table 1. In Koburg, in addition to televisions, satellite receivers were being produced for BSB television. In Koorki, televisions and micro-wave ovens were being produced. In Kokuda, only televisions were produced, but a separate factory on the same site manufactured television tubes for all European production plants. In Kohashi, micro-wave ovens and video recorders were produced on the same site, but at separate factories. It should be noted that, while the tube is the single most expensive component in a television and certainly the most visible, tube making is a completely different process to the assembly of television sets. Kokuda was the only plant where tube manufacture was done on the same site. At the Koburg plant, the tube came from within the group, whilst in the other two Japanese cases, tubes were bought from *local suppliers*, a reflection of import restrictions specified in terms of local content requirements. With the exception of television tube manufacture all the other activities in the plants required assembly work of approximately similar skills and methods of working, so there was a strong degree of homogeneity between and within the plants, even down to seasonal variations in production, shown in table 2.

Table 1: Production areas.

	<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi</u>
Primary output:	TV assembly	TV assembly	TV assembly	TV assembly
Other products	satellite receivers	microwave ovens	TV tubes	VCRs and microwave ovens

(Source: various interviews with managers, 1989 and 1990)

Table 2 shows that all the plants had large variations in their weekly production output, of between two and three times. This striking variation was due to seasonal changes in production, showing the full technical capacity of the plants were rarely used, and when the machines did run at full capacity, many seasonal workers were required to swell the ranks of direct employees to operate them. This issue will be explored further in Chapters Six and Eight. While all the plants produced televisions they differed in terms of their production capacities and in the extent to which they served overseas markets. As table 2 shows, two of the firms, Koburg and Kokuda, sent substantial proportions of their production overseas, but the larger Japanese plant produced solely for the UK market. These export ratios indicated variations in production because sets were customised for each market, as will be explored in Chapter Four.

Table 2: Weekly Production Output

	<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi</u>
production capacity	7-15000	5-10000	6-18000	8-16000
export ratio	50%	75%	0%	25%

(Source: interviews with production and personnel managers, 1989 and 1990)

Table 3 shows the employment of full time employees in each of the case plants and indicates the division between direct and indirect employees on site. Direct employees were those directly involved in manufacture or maintenance, the indirects being managers, office workers and designers. Kokuda was the largest company in employment terms, whilst Kohashi was little over half the size. Significantly, although Koburg and Koorki are similar in size¹ and in their proportions of direct to indirects, the other two plants are quite different. Kokuda operated with a higher proportion of direct workers than the others, despite its research and development image, implying either a flatter management hierarchy or *less direct supervision*. Kohashi, on the other hand, had a smaller proportion of direct employees, suggesting that it was less efficient. The reasons for these variations will be shown in Chapter Five.

¹ This similarity is important because in section III of the thesis comparisons will be made of employees experiences and perceptions of work between Koburg and Koorki.

Table 3: Size of workforce and proportion of direct workers, as at Oct-Dec, 1989.

	<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi</u>
total	1276	1200	1600	850
direct	828	782	1200	500
indirect	448	418	400	350
Percentage direct	65 %	65 %	75 %	59 %

(Source: interviews with personnel managers, 1989)

It will be evident from the data on the numbers of workers employed in television assembly in these plants, shown in table 3, that levels of employment do not simply reflect production capacity. However, this table does not show the employment of casual and seasonal workers whose employment constantly varied in each of the plants distorting these correlations, as will be detailed in Chapter Eight. However, variations can be explained in terms of differences in the complexities of the sets, some degree of differences in whether certain sub-assemblies were conducted on site or contracted out, and the model of television being produced. Thus, Koburg and Kohashi tended to concentrate on low budget sets, whereas Koorki and Kokuda emphasises more on higher value and HiFi sets.

An important feature of the employment profile was the sexual division of labour in which most managers were men and most workers were women. The character of these divisions is explored later in the thesis, but here, the extent of employment can be seen in following table:

Table 4: Percentage of women workers

	<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi</u>
Overall	-	-	49 %	51 %
direct workers	60 %	60 %	60 %	60 %

(Source: Interview with personnel managers, 1989)

These figures show that on the shopfloor most workers were women, especially young women who had recently left school (the average age of employment in all the plants was 22 to 26). However, these figures disguise areas where there were much higher concentrations of women workers; for example, in one printed circuit board sub-assembly area 75 percent of workers were women.

Another important feature of the case-study plants, alongside their product mixes and structures of employment, was their distinctive geographical locations. As Garrahan and Stewart (1991), Taylor (1986) and others indicate, Japanese multinationals tend to locate plants in areas of high unemployment and vulnerable labour. For example Garrahan and Stewart (1991) argue that Nissan's location of its assembly plant in the North East was strongly influenced by two factors: the availability of a skilled, cheap and largely unemployed labour supply for which the offer of secure employment would guarantee a degree of compliance; and financial and rhetorical support for Nissan's brand of industrial relations management from both local and national government. It is therefore appropriate to identify the distinctive geographical and labour market settings of the case study plants in this research.

The Koburg television plant was located on a long road flanked by numerous medium sized manufacturing units. The road led into a coastal town in the south of England, which was dominated by Naval supply activities. Koburg was a large employer in the locality but still outside the top five employers and, thus, did not command a powerful position within the local economy. Even 10 years previously, when the plant employed several thousand workers, Koburg was still not the biggest employer in the town. However, with the contraction of the Navy and the closure of numerous small businesses the labour market was becoming, month by month progressively slacker. A small amount of employment in the town came from fishing but light industry and commercial (retail, banking, etc) capital dominated. Thus, there was a plentiful supply of appropriately skilled workers at all levels. Moreover, there was no strong trade union base in the community.

Koorki was on the edge of a small city, which had suffered a general post-war decline in heavy industrial employment. The plant was located on a 1970s industrial estate, in which it was the second largest employer. However, within the local labour market Koorki was relatively insignificant, with service sector jobs dominating the employment scene. However, this portrayal does not do justice to Koorki's 'visibility' within the locality, arising from its role as an early Japanese investor, continual expansion and its great public emphasis on its single union and harmonious employment strategies. Moreover its 'success' within a generally depressed economic and social environment is highlighted by the periodic opening of new Orki plants in nearby towns, totalling five by 1989.

Koorki, although not the major employer, represented a public face of growing employment in light industry to replace unemployment from closed heavy, 'militant' union establishments. Koorki appeared as the medium sized, flexible, caring employer to replace the dirty huge plants which died in the Thatcherite coffin provided for tripartism. The replacement of heavy for light industrial jobs did not seem to cause a problem for workers with appropriate skills in the labour market, especially as women came from schools and shops, though a potential problem might arise if the company needed to employ technical men, used to union power and position in previous employment. The way Koorki and the other Japanese firms coped with this will be discussed in later chapters.

Kokuda was situated on the edge of a small town which was within a tourist area, which once acted as the centre for mining. Most of the pits had closed over a long period of time and Kokuda was located so as to take advantage of the unemployment created by these closures at a time when the UK *economy was still perceived as strong*. The community had the air of present day dilapidation after a history of male working class struggle with despotic early capital. The stone on the cottages and church halls was blackened with coal dust. The workers left this environment to work each day in a white building, with clean floors and bright machinery, a bus ride away from the town, as if to indicate the symbolic journey between old and new industrial employment. The separation was heightened by the predominantly female workforce at the factory, replacing male jobs in the pits.

Another impact of Kokuda's arrival arose from its emphasis on research and

development. Graduates from Universities all over Britain compete to work at Kokuda, and this means that each year a few 'outsiders' come to live in or around the town. The impact of Kokuda on skill formation in the town was, however, minimal because the advanced technical skills remained within this educational elite, confining locals to the other technical and manual tasks.

The Kohashi plant was located in a narrow valley, surrounded by pit villages. Opposite the gates to the plant was a closed pit, with its black slag heaps and rusting machinery. The community of villages was steeped in the history of mining more than any of the other case-study sites. A mine employing more than Kohashi was still in operation within the labour market, but among the numerous unemployed there were enough appropriately skilled men and available women on which management could draw.

Kohashi's decision about location was similar to that of the other Japanese cases, being influenced by the existence of plentiful unemployed, vulnerable and skilled labour. However, the people who made this decision were British rather than Japanese capitalists, as Hashi was forced by the early Thatcher Government to buy out an existing company rather than locate in a greenfield site. The transfer of ownership to the Japanese was seen as saving the factory for the future and so had support in the community. While the plant would never grow to the size it was under British control, at least it would exist!

There were, therefore, significant differences between the locations of the different

plants, but all operated in relatively congenial labour market circumstances, although for the type of labour they required, recruitment was becoming increasingly problematical, as will be explored in Chapters Seven and Eight. The Japanese plants were all located in areas of higher than national average unemployment, with labour experienced in the culture of the heavy industries of steel and mining. The European plant was located in an entirely different cultural setting of light industry and, until the time of the study, with plentiful employment. However, it would be wrong to assume that only the Japanese took advantage of the high unemployment and felt confident of 'taming' the union culture. Koburg was a greenfield site chosen by the owners in order to first supplement, then relocate production from London, where the company had paid higher wages to highly active unionised workers. This strategy of relocation, though different to that of the Japanese also worked to the benefit of the management by reducing labour costs and exploiting a more vulnerable labour force.

It is against this background that some of the most obvious features of the employee relations of these plants, catalogued in tables 5 and 6 should be noted. These suggest that, while there was a familiar contrast between the multi-unionism at Koburg and the single-union arrangements at the Japanese plants, there was much less of a contrast in terms of participation arrangements, while the practical implications of single unionism also seemed to vary across the plants.

Formal schemes for involving employees within the organisation both as a motivational tool and as means to increase quality and/ or productivity is emphasised by the Post Fordists and the Cardiff School of Japanisation. All the cases had two

types of such schemes, team working and quality circle activity groups. Moreover table 5 indicates that two of the Japanese firms went further, Kohashi going as far as a 'Company Members Board' (CMB), indicating, at face value, a high degree of employee representation within the plant. The realities of these schemes will be explored in Section III of this thesis, especially in Chapter Ten.

Table 5: Participation Schemes

<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi:</u>
teams	teams	teams	teams
QCs	QCs	QCs	QCs
	Suggestion scheme		CMB

(Source: drawn from various interviews, 1989-91)

The following table indicates various aspects of the unions recognised in the four case plants. The single union feature of the Japanese is striking when compared to the five unions recognised in Koburg. However, this is where a stereotypical gloss on the nature of Japanese direct investment ends, as the lowest union density was in the European plant both in overall terms and on the shopfloor in particular. Further, although single unions were recognised in the Japanese plants, this did not mean that one bargaining unit was recognised for all the workers, but instead a demarcation existed between blue and white collar staff, with the different sections of the unions representing each unit. These features and their implications for industrial relations will be evaluated in Chapter Eleven.

Table 6: Union recognition

	<u>Koburg</u>	<u>Koorki</u>	<u>Kokuda</u>	<u>Kohashi</u>
Union(s) recognised:	EEPTU, TGWU, MSF ECSA	GMB	AEU	EEPTU
Overall Membership (%)	40	95	65	60
Shopfloor membership (%)	47	99+	?	75
Bargaining units	6	2	2	2

(Source: interviews with personnel managers and union representatives, 1989 and 1990)

There are clearly seeming contradictions between table 5 and 6 in that the Japanese firms had a high degree of employee involvement and high union membership, in remarkable contrast to the important studies of *Garrahan and Stewart (1991) of Nissan* in the NE of England, where participation schemes were used to replace unions both by encouraging the channelling of any expression of dissent through the company schemes and by management taking an anti-union attitude. Another feature of these tables is that contrary to some assumptions about gender and unions, the higher densities were among the shopfloor workers, where women predominated, and thus the bulk of the membership was women in all the firms. Again, these features will be dealt with more comprehensively in Section III of the thesis.

Overall, there was a range of differences among these plants, some quite marked, such as those of size, product mix and union membership, and others more subtle, like those of local labour market structures and the balance between direct and indirect workers. It is important, however, to underline that these differences do not

simply divide the European from the Japanese plants - indeed Koburg and Koorki were in some ways most similar - whilst in other respects, such as the character of the core production process and the gender composition of the workforce all four plants were quite similar when contrasted with other sorts of manufacturing.

THE PARENT COMPANIES AND THE CASE-STUDY PLANTS

The discussion so far has focused on the case-study plants themselves, but it is also important to consider similarities and differences in the broader corporate structures and relationships within which these plants operated. Within consumer electronics Orki ranked number one in terms of turnover, followed by Kuda and Burg, though the European company appeared to have poorer margins than its Japanese competitors. By comparison with these companies Hashi's involvement in consumer electronics was relatively small.

Burg.

Burg was a European company which was wholly owned by its home government. It was a state owned company, with a preference for home production but it was increasingly becoming a multinational enterprise. Its major products were in consumer electrical, including both white (eg. fridges, cookers) and brown (eg. heaters and cleaners) goods, although it also produced defence and business equipment.

Most manufacture was carried out in the home country, but the pattern had been changing since the later 1980s. Some large acquisitions of companies in Germany, the

UK and US had extended markets and manufacturing establishments, including Koburg. There had also been moves to exploit developments from East Asia: joint ventures for the development and manufacture of products, such as televisions and micro-wave ovens had been struck with two Japanese companies. Moreover, a recent change in strategy had been to substantially rationalise production in Europe, with the loss of thousands of jobs and transfer the production of brown goods to plants in Malaysia.

Orki.

Orki was a large Japanese company which was almost exclusively engaged in electrical and electronic product manufacture and sales. 58 percent of production came from Japan (Orki;1988), whilst only 13 percent came from Europe. Televisions form part of video equipment sales, which contributed nearly 30 percent of production in 1988 (Orki;1988). At the time of the study, Orki had begun to acquire companies within related industries overseas, although its main method of expansion had been through direct investment.

Kuda.

If any company in Japan could be termed a multinational, it must be Kuda, with only a third of its sales being in Japan (Kuda;1988). Moreover, televisions were of crucial importance for this company, accounting for almost a quarter of all sales revenue (Kuda;1988). Kuda had engaged in substantial overseas production, especially in Europe and the US, and was increasingly engaging in growth by acquisitions (mainly in the US) of such concerns as record and film companies, which extended markets

for existing products.

Hashi.

Hashi was a diverse conglomerate, which was mainly concerned with heavy industrial manufacture, with some international interests. Its engineering and electronics corporations, as of 1990, had 43 overseas production plants and 18,000 employees, of which 500 were Japanese expatriates. However, because of its large contracts for heavy industrial products, such as power stations and trains, its consumer products business (including electronics and IC chip manufacture), with 17 percent of net sales (Hashi;1988), was not as vital to the overall activity of the conglomerate as it was for the other three case study companies.

In summary each company was a slightly different kind of multinational in its approach to and method of multinationalisation. The only company which could be called a global company was Kuda, although most of its senior executives were always Japanese. While each of the other companies had consumer electronics as its core activity, Hashi was the only conglomerate, in which consumer electronics made only a minor contribution to activities.

Management of the UK plants

Moving on to the relationship between these companies and the case study plants each of the four had somewhat different relations with their parent company. Within Burg, the Koburg plant was seen as highly productive, but the parent company managers had a sanguine view of both the British workforce and management, although there

were disputes between local and Continental engineers about the efficiency of the technology. It seemed likely that Koburg would become the European specialist in the smaller screen sized, 14 inch, sets for the fiercely competitive market, where there was high volume and low profits. In the future, this would be seen to allow the development of production for export from Koburg (Interviews 7-12-89a)².

Since the takeover by Burg there had been a move within the group to source parts internally, where possible. This had meant that some traditional suppliers to Koburg had been dropped and replaced by companies from Burg's own 'preferred list' of suppliers, a list which excluded Japanese owned companies where at all possible.

Koburg was treated as a branch plant of Burg with some degree of operational autonomy. Set against this was a restriction of scope to products assigned to the plant, to be produced according to headquarter's designs, and at budgets agreed and set between the headquarters and the locals. Among locals within Koburg, there was a curious mix of opinions about whether the plant was British or Japanese. As one walked round the plant it felt British and everyone one met was British, but workers and engineers talked of how different it was after the British owned days (Interviews 6-12-89b and 17-7-90c). They emphasised that Burg's takeover had made it different.

In terms of their assessment of local workers and management all the Japanese firms were more critical. In the interviews, it appeared that there were three considerations

² This comment is ironic considering the plant closed three years later. For an explanation of the closure refer to the Preface to this thesis.

in managing the Japanese plants. First, a crucial benchmark consideration was the policy of making Europe a special case whereby the Japanese wanted to appear on the inside and develop a structure which could respond to the changing internal demands of capital in the European Community. Second, a dominant theme was that headquarters saw local management as incompetent and workers as unmotivated, and yet felt obliged to use them. As a result there was conflict about where responsibility, and thus, power should lie. This was given a distinctive twist because local managers did feel they had a useful role. Behind this there was a complex interrelationship between the Japanese wanting to do it their way, yet not wanting to appear to be enforcing a Japanese model on the locals. The Japanese were unable to cope with local methods and attitudes, they felt unable to change those attitudes and yet they only knew how to make televisions the way they did back in Japan. They did not seem to have resolved these conflicts. Instead they changed their level of expectations and, perhaps, maintained a strategic position so that nothing could go drastically wrong. Thirdly, however, this whole pattern was experienced as less difficult than might be expected, and this appears to be because televisions were seen as being something like a loss leader, to maintain and develop the brand name so that other products could be imported from Asia.

At the same time that the Japanese were grappling with the problems of transferring management practices from Japan, with which they felt comfortable, they were also having to learn how to manage Western plants as they set new ones up. In other words, there were a number of managerial processes occurring here. These processes will be developed further in Chapter Five, especially in respect to young Japanese

executives being developed into international managers, a relatively new job title in Japanese industry.

Turning in more detail to aspects of the relationship between Japanese managers and local employees, one informant thought that in the original plans there were only supposed to be 10 Japanese managers working at Koorki, although 70 remained as at the end of 1989 (Interview 21-2-90c). However, he went on to say that some may have remained because plans had changed, as the company took an expanded view of European markets. He also explained that the type of Japanese manager had changed from those skilled in production matters to those involved in administrative duties (Interview 21-2-90c). Another explained that almost all the Japanese were at Koorki as part of their training, learning from Koorki, before being given "a proper job" (Interview 21-2-90b).

As in several plants studied, Japanese managers at Koorki and in the headquarters in Japan were deeply critical of British managers. One senior Japanese complained "they have flexible ideas because they do not have to have a loyalty like in Japan" (Interview 16-8-90f). The locals were seen to move around companies, calling in at Japanese ones to improve their CVs. They went home at 6.00pm, they didn't socialise with others after work but went to their families. At the same time it should be noted that one or two of the younger Japanese engineers made these observations with some sadness that they could not do the same (Interview 28-6-90f).

As for workers and even supervisors, they were seen as being no different than in

Japan. The problem, as far as the Japanese were concerned lay with British management. In this light it is easy to think that Orki would tend to prefer confining power to the expatriates rather than giving the locals control of the plant. Nevertheless, some local managers were trusted and seemed to be included on the control process. The result seemed to be that local managers did much of the work of keeping the plant running but their work was studied and controlled in detail by the Japanese expatriates and the local semi-insiders (Interview 16-8-90).

Overall, then, the European parent company, Burg, had a more sanguine view of the local management and workforce than did their Japanese counterparts, though there were also some differences among the Japanese companies and all four plants had limited degrees of autonomy. What seems most striking in the Japanese companies was the vastly different perception as to competence and viability which existed between each of the headquarters and their local plant managers. As far as the headquarters were concerned the British plants would never match Japan. At the same time the local managers still had optimism that their personal control would increase as performance did. On the other hand the Japanese were not too worried about the performance of the UK plants, partly because their own careers would take them back to Japan before long, and partly because the relative contribution of the plant to overall sales of televisions in Europe could be supplemented by imports from Japan and SE Asia if there were problems locally.

Finally, in all the companies there was a tension concerning localisation versus centralisation. Koburg had changed from a decentralised organisation to a centralised

one since Burg took-over. For the Japanese, there was a wish to increase decentralisation at a formal level, but it was clear that the Japanese were actually more centrally controlled, primarily through informal and ambiguous structures. It could be argued that this was due to the infancy of the plants, and this is an issue returned to later in the thesis, but evidence suggests that, although there had been some decentralisation since the initial set up of the plants, there was no strategic intention to boost decentralisation further.

Nevertheless at the strategic or organisational level of European operations each Japanese company took a different approach. Kuda, the multinational imaged company, was in reality the most centrally controlled through budgeting, advisers and pushing control from the plant to, first the Regional headquarters, and then Tokyo. It was also into 'Japanising' British workers and was very hard on its own expatriates. Hashi was different in that it seemed more relaxed about operations, trying to keep responsibility at the plant though not expecting too much performance. The Regional headquarters was likely to come to Europe only because they wanted to be on the inside after 1992. Strangely enough it was Orki, the traditional Japanese giant, which seemed most developed in Europe, although still not trusting the locals too much. The trump card seemed to be the establishment of both its own on-site components plant and close contacts with large European firms for R&D purposes.

EARLIER SURVEYS OF ELECTRICAL TRANSPLANTS IN THE UK

The research on which this thesis is based utilised the strategies of factory visits and

interviews with key management, union and employee informants in each of the case study plants. The interest in Japanese practices overseas has, however, prompted several studies of employee consciousness in the UK subsidiaries of Japanese plants using a rather different methodology. This section will concentrate on studies on electronics and especially consumer electronics and review the relevance of such studies for my research.

One of the first pieces of such research was conducted by Takamiya (1981) in a survey comparing four television assembly plants: two Japanese, one British and one US owned. He found that worker satisfaction rates were a little higher in the Japanese firms than in the UK firm, with the US firm between the two Japanese plants, as shown in table 7. He supplemented a direct questionnaire question on satisfaction by indirect, and perhaps suspect, measures of employee attitudes, as is shown in the table; labour turnover, absenteeism and strikes.

Table 7: Comparative data on employee satisfaction and other features of 4 electrical plants

	<u>Japan one</u>	<u>Japan two</u>	<u>US</u>	<u>UK</u>
Employee satisfaction	15.6	12.71	13.2	11.32
Labour turnover (%)	30	25-30	30	30
Absenteeism (%)	4	5	8	9
Strikes over 2 years	0	0	0	20
Labour Productivity	0.83	1.07	0.71	0.56
Quality defect record (%)	4-5	10	14-15	85

(Source: adapted from Takamiya;1981;6)

Takamiya (1981) does not simply report the pattern of satisfactions but also relates this to other indices of labour force response, which appear to suggest a successful combination of the most effective production (high productivity and high quality) and employee integration (no overt conflict and high satisfaction). There are, however, also some suggestions of a more complex and qualified picture: firstly labour turnover is more or less uniformly high across all the plants, and secondly the two Japanese plants appear to have gone for rather different trade-offs between productivity and quality, though both at a higher level than the US and especially the UK plants. Furthermore, other features, such as the pattern of absenteeism, reflect different managerial policies rather than simply employee satisfactions, in this case a greater emphasis on supervisors disciplining absenteeism and lateness in the Japanese plants. Thus this research cannot be taken as straightforward evidence of a simple correspondence between Japanese management, productivity and satisfaction; rather it poses fresh questions about the relationships between management policies of recruitment and control, productivity achievements and employee attitudes, which need to be addressed by research approaches which escape from some of the limitations of the attitude survey.

Another piece of research from the early 1980s was that initiated by the then Head of research at Denkirouren, Ishigaki Tatsuo, who conducted an international comparative study of worker consciousness which has yet to be published in complete form. However, Guest and Dewe (1991) draw on the rather limited data collected in Britain as part of the overall project, and my comments are based on their report. The survey was of 716 workers in three plants in South East England (1991;80). These

researchers found that there was low worker identification with both the company and unions. Although managers and supervisors were often seen by these workers as representing worker interests, the overall view of the company was more negative because they held more critical views of the pay and promotion prospects offered by the firms. At the same time workers' believed that the unions at national and local levels were "not doing a satisfactory job" (1991;86). This underlines the importance of a careful exploration of the relationships between management policies, forms of union organisation, and worker attitudes and identities, which will form a part of the research agenda of this thesis.

Finally Reitsperger (1982), as part of his PhD, undertook a questionnaire study of worker satisfaction with various issues related to work and employment among semi-skilled, mainly women workers. His work is important in that it was seemingly the only major study of attitudes of workers in television manufacture, covering two Japanese, a US and a UK plant in Britain. The study is also particularly significant for this thesis because it deals with most of the cases which I studied 10 years or more later. The key conclusions from the survey were that (i) it revealed a complex set of worker attitudes, where a worker could dislike the company but accept that the job they did was satisfactory, and (ii) there was no clear linkage between worker attitudes and the national identity of the company. (Reitsperger 1986; 176-85 and 206-23). In a summary of his findings Reitsperger (1986a) underlines these conclusions by noting that (1986;570-2):

The greatest differences in this area (satisfaction with the firm) exists between Japanese company one and two.

The low level of satisfaction with pay in Japanese company one compared to all other companies is striking. The American company and the British company clearly emerge as leaders in this area.

In the dimension of (opportunities for) promotion..., Japanese company two is viewed most favourably, and Japanese company one is viewed least favourably by the operators in these companies.

Only in satisfaction with co-workers does he report that the Japanese companies have similar results (1986;572).

On the basis of such evidence Reitsperger (1986;574-84) seems to conclude that the two Japanese companies have been successful by applying two rather different strategies towards labour: one using indigenous Japanese paternalist practices and the other, Japanese two, by "applying Western individualism" (1986;572). However, if this were the case it would be likely that Japanese Two would be consistently clustered with the Western firms and Japanese One would stand on its own, but his evidence does not support such a conclusion.

It suggests instead that the strategies followed by each company are conditioned by the constraints of both productive necessity and worker resistance. Moreover, there is also evidence that, because of the uncertainty of capitalist employment relations managers cannot always control relations with labour in the ways envisaged in their strategies. For example, Japanese Two was small, with around 300 workers, whereas UK had 2,000 workers and the other two companies 700 each, yet Japanese Two was not paternalistic and workers there expressed a relatively low dissatisfaction with work. It was likely that in this small company there was no tight integration of work so that workers retained some control over their own jobs.

In conclusion, it is clear from Reitsperger's work that, although there are differences which mark out patterns of worker attitude related to who owns the company, it is at least as important to distinguish between the two Japanese cases. This suggests that research on so-called 'Japanisation' should be alert to such differences of corporate policy and practice and worker experience in different Japanese factories and this will be an important concern within this thesis. At the same time it should be noted that, while Reitsperger studied some of the same plants as I did, it is not possible to draw any simple lines of continuity between his research and mine. This is because the Japanese cases have expanded dramatically over the intervening years, while the UK plant has both been taken over by a foreign inward investor and closed down in favour of a smaller plant.

A CRITIQUE OF SURVEY RESEARCH METHODOLOGY

All these studies of consumer electronics discussed above have depended for much of their data collection on questionnaire surveys issued to employees. There are very good reasons for this, namely that codification of comparisons is made easier and it is an easier method to gain access to the shopfloor than in-depth interviews would be.

There are a number of problems with this kind of approach, not just in terms of question fatigue, normative answering and the myth of 'hygienic' research so criticised by A Oakley (1981) among others. There are particular problems of understanding complex relations between intentions, attitudes and actions of individuals within a work context. Thus, Takamiya's study (1981) may indicate

differences between Japanese One and Japanese Two employee satisfaction, but even assuming the respondents react to the questions in the same way, there is no way of telling why there are differences. For example, it could be that respondents in Japanese Two are marking the questionnaires with a particular recent issue in mind, rather than a long term view of their attitudes. It is not even possible to rely on the labour turnover rate as a measure of attitudes, as it depends on the wages and vacancies in the local labour market, as well as internal issues of promotion, work pressures, opportunities for overtime and so on.

This thesis attempts to move away from statistically significant correlations to explain comparisons, to explore comparisons through analysis of issues themselves. In this way participation schemes, for example, are not in themselves significant, but instead, their workings, attitudes towards them and their relative importance as compared with other ways employees can voice their opinions let us explore complex and often contradictory relations between an employee, his boss and a strategic tool used by management to impact on their relationship.

The trade off in this choice of research method is that management only allowed access to the shopfloor in two of the case studies although one would have wished for such access in all four plants. Although access was given to various managers, technical staff and union representatives in all the cases, only in Koburg and Koorki was researched allowed on the shopfloor. Despite this being less than ideal for a full exploration of comparisons, more can be learned about the other two companies, where access to shopfloor workers was not given, by interviewing in the ones that did

allow access, than would have been possible through distributing questionnaires in all the cases. For a fuller discussion on this methodological break from the past, refer to 'The Story of the Research Process' contained within the appendices, but here a brief outline of the interview method used for this thesis will be provided.

The research was based on over 50 formal interviews over a period of about 20 months, visiting each plant at least twice, and each time touring the factory sites. Interviews with managers and union representatives were conducted usually for one to two hours on an individual basis. There were informal conversations, usually on plant tours or over lunch as well. With other people there were usually small group interviews allowing a different kind of discussion to take place, but also exposing the researcher to more people in a short time. Thus, in all over 70 people were interviewed. In addition to interviews in the UK plants, opportunities were taken to visit plants in Japan, interviewing people there, and in the Japan headquarters of each of the Japanese cases. This approach allowed the development of conversations with managers, enabled the researcher to sit and listen to conversations developing between workers and to develop an ethnographic approach to the research process. Initially interviews were conducted using a set of topics and question areas to discuss, but increasingly the interviewees themselves set parts of the agenda.

It is not argued that this approach is unproblematic but it provides a significant break from previous methodologies used. Thus, this thesis is a different type of study than that which has been done previously, although having the benefit of drawing on these studies for particular points of discussion.

CONCLUSION

This introduction to the case plants has shown that there are both similarities and differences between the case plants which sometimes mark a distinction between European and Japanese but at other times draw distinctions between the Japanese plants. There are a number of points of analysis in the thesis necessary to fully explore the relation between the labour process within the firms, the environmental context in which these took place and the nature of multinational operations. The intricacies of the relations and contradictions between these features will be explored through the rest of this thesis.

The studies which have been done previously have tended to concentrate on employee attitudes, defined narrowly and with few other aspects of the consumer electronics industry in the UK, and the place of Japanese direct investment in this sector, considered and the place of Japanese direct investment within this. In this chapter it was argued that such research has a methodological weakness. Moreover, this narrow focus of research provides us with very little understanding of the firms, and thus, as argued above, a much deeper and broader picture needs to be explored in order to understand the situation of this industry. The following two chapters will explore the context to the plants more thoroughly.

CHAPTER FOUR

MARKET AND MARKETING STRATEGY

INTRODUCTION

A product has no use to a capitalist unless it can be sold and sold at a profit, or as part of a package of products which in total redeems a profit (Marx;1976;293). Therefore, all managerial functions and actions should be considered in relation to this ultimate purpose. The relationship between selling and production is a set of complex dependencies but it is reasonable to say that under competitive market conditions the power of the individual capitalist is limited to internal affairs in preparation for selling goods in the market place. Thus, the chapter reflects this thinking by taking the market as a given factor in the corporate environment.

By looking at general strategies towards markets some inferences can be made concerning the debate around 'Japanisation'. This chapter will assess the relation between selling and production, and more specifically whether so called Post Fordist Japanese markets emerge along with Japanese globalisation, by looking at the case study conglomerates and UK market for televisions. This discussion provides a background to later analysis of JIT and flexible work practices.

The chapter starts by setting up a theoretical model of the 'Japanised' market place through a discussion of Post Fordism. The rest of the chapter then looks at the

consumer electronics market and the strategies of companies. First the nature of the television market in Japan, then that in Europe, is examined. The chapter concludes with a consideration of UK industrial policy towards the industry and then the European Corporate response to Japanese inward investment.

POST FORDIST MARKETS?

There are conflicting arguments as to the form of Japanese consumer markets. On the one side, proponents of Post Fordism, JIT and flexible employment practices argue that these markets are undergoing rapid change with constantly changing consumer demand. On the other side, *others argue that Japan is still dominated by mass markets*. These arguments will be introduced in this section.

The Post Fordism thesis is that mass markets are in decline because consumers can afford and can discern highly differentiated products. This has led to arguments which focus on small batch production, usually associated with expensive specialist products.

One explanation, specifically advanced by those in the flexible specialisation camp, focuses on the breakdown of mass markets. Sabel (1982) and Piore and Sabel (1984) both argue that mass markets have collapsed, requiring capitalists to produce smaller quantities of differentiated products for consumers. Atkinson and Gregory, in a more 'preaching to management' style place emphasis on the need (1986;13):

To increase their (managements') ability to adjust quickly and cheaply to a more uncertain, volatile and competitive market, and to an increased pace of technological change

However, Sayer acknowledges that these changes are not being adopted in all cases (1989;670):

Even a cursory examination of new consumer products shows that mass production is not in decline but flourishing, particularly in Japan.

Nevertheless, the general thesis of Sayer (1989;194-231) is that there is a move towards production diversity produced on general purpose machines, associated with a move away from mass production¹.

Those who study the subject from a marketing perspective, such as Mark Zimmerman (1985) and Kotler, Fahey and Jatusripitak (1985), and those looking at multinationals, such as Dunning (1986;76) consider the consumer markets in which Japanese capitalists operate as none other than mass markets. Further, Gregory (1985;37-46) provides evidence that Japanese strategy within the electronics industry has been to turn products, such as semi-conductors, *from small markets to mass markets as a strategy to gain economies from scale.*

The rest of this chapter will therefore concentrate on the consumer electronics industry and the location of the television market within it. This will help determine whether there are still economies of large scale production to be gained by capital from supplying a mass market in the UK and Europe, or whether radically new

¹ Williams, Cutler, Williams and Haslam (1987) also criticises the whole base of this flexible specialisation model, when reviewing Piore and Sabel (1984). For example, Williams et al point to a lack of any statistical support for changing markets (1987;416).

employment and worker practices will be needed to cope with increasingly individualised consumer behaviour.

THE CONSUMER TELEVISION MARKET IN THE UK

The consumer electronics market is where most televisions are sold (the other being industrial) and it is this market that the case study plants supplied. This section looks at 'product image' - consumer perceptions of brand quality - and 'Product innovation' - product development and its impact on the market.

Product image

The television sector is basically a mass market. Televisions are a fairly standardised product, where differentiation in production terms is slight. The main features of differentiation are price, quality, availability and cosmetic design. Except for a few specialised sets, price competition has meant that economies of scale from mass assembly line production are needed. Specialist sets include such items as projection videos, used in passenger aircraft, which as yet, do not form sufficient demand to warrant mass production.

The average television set plummeted in real price terms while its reliability and 'add-on' features had increased (Interviews 13-11-89 and 24-10-90). One Japanese marketing manager estimated that real prices fell five to six percent each year squeezing profit margins and creating the need for economy drives (Interview 24-10-90). 14 inch and 21 inch screen sizes were especially competitive. As more

companies targeted these market sectors, it further diminished profits and encouraged over supply through increasing pressures within each firm from scale cost benefits.

Customer-perceived quality allows some price differential between competitors but the argument among manufacturers has been that the Japanese introduced 'quality as a standard'. Thus, if a product is seen as low quality then it can only compete by substantially lower pricing. This quality premium has allowed Japanese televisions to carry comparatively high prices compared to televisions made under other country brands, with the exception of Germany. However, among themselves the Japanese have had to be price competitive, as the quality premium is not distinguishable between these firms. For this reason those in power in each of the Japanese owned plants in the UK struggled hard to extend the premium of 'made in Japan' to include 'Japanese made in the UK'.

Televisions are consumer items which may be termed as 'off-the-peg' purchases, despite their cost. That is, a consumer goes into the shop, looks at the choice, perhaps with the assistance of a shop worker, and selects one, either taking it under their arm or having it delivered to their home. This is like the purchasing pattern for soap detergent, with the same burden for the manufacturer. The television sales office must try to make sure that there is a television in all the major stores so that the consumer has the possibility of seeing their set. For the manufacturer, it means making sure there are sets made and available for: a) display; and b) in stock, packed at the back of the shop. This requires production for stock, not for order. This pattern of consumption is crucially different from cars, for example, where a customer

expects to wait for 'delivery'. If the consumer goes in to buy a television, even if s/he intends to buy a set made by Orki but Orki is awaiting delivery, s/he will more than likely buy a competitor's set (Interviews 13-11-89 and 24-10-90).

Within the UK, retailing of consumer electrical goods is dominated by large chain stores, such as Dixons and Comet, which themselves compete substantially by price². This means that the manufacturers must provide discounts and guarantees of supplies in order just to compete for shelf space with competitor manufacturers. The competition between producers and the oligopolistic position of large retailers puts considerable power in the hands of the latter (Interview 15-3-92).

Each manufacturer is constrained to produce a markedly similar product to all their competitors. Thus, there has been a proliferation of a wide range of similar products manufactured by different companies. One way of obtaining a perception of differentiation is through aesthetic design. This can be to create a design which gives an image such as classical or modern, or it can be to provide a choice of designs for the same set. This latter tactic has been used widely among small screen sets, providing white, red, green 'boxes' for the kitchen or the children's bedroom. This type of gimmick can be important for relaying the quality image and to appeal to those who see the television as part of the furniture of a house, rather than the box

² At the time of the research competition on the basis of 'customer service' was not so prevalent in the UK, as it was 10 years previously. This is partly because the method of manufacture is making it increasingly difficult to repair faulty parts. Instead new 'sections' of the television are replaced, or often the whole set. As all the retailers tend to give similar service in this area, it has more or less become a 'standard'.

in the corner. The problem for the Sales Department is that giving a choice of designs leads to a further proliferation of the stock a retailer must carry. This is under pressure from finite stock space, with all the competitors vying for the same shelf space.

In 1982 Reitsperger wrote (1982;53):

The UK colour television market at the time of this study was characterised by extremely competitive pressure ... characterised by over-capacity in the industry and heavy losses in several established companies.

Ten years later, little had changed. The television is a mass consumption good which the consumer buys off-the-peg. Mass consumption televisions are narrowly differentiated by price, design, but mainly by the screen size. However, as will be argued in Chapter Six, these differences had little impact on the shopfloor.

Product innovation

Since the first black and white sets were marketed there have been some variations in models. During the 1980s there was both an increase in the number of screen sizes and a range of 'add-ons' introduced to complicate the basic set. The consumer was given a choice from small 14 inch sets to 33 inch screen sizes and many points between. Now there is a size for each room in the house and even the car³. Second,

³ Hand held televisions use a different form of technology than normal televisions to display the picture on the screen. For this reason they tend to be manufactured in plants for audio equipment and not television plants.

the television is being used in other ways than just to see pictures from the television stations. Now there are on-line text services, computer compatibility and so on. Add-ons need to be provided as options for the potential consumer, over a range of screen sizes. The television makers must supply the full range of television sizes to the retailers, along with the different combinations of add-ons, lest they miss a potential sale.

One area of periodic design changes has been in the construction of the television tube, such as 'Triniton' and 'Black Diamond'. These changes were not researched because the implications for production change at the point of assembly were minimal. Nevertheless, considerable basic or fundamental research is needed for new types of screen. These changes are not merely cosmetic as, for instance, the flatness of the screen and the darker the shade of grey of the screen (seen when the set is switched off) the clearer the picture displayed.

Some additional complexity in the market is occurring as a result of developments in production technology. These either improve the picture, as in HDTV (High-Definition Television) or the sound, as in NICAM (otherwise known as 'Digital Stereo', an advanced set of circuitry for improved picture transmission and sound, allowing stereo). Both may be considered as luxury features now but, as happened in the past, competition means that the luxury of the present becomes standard in the future.

Despite the expansion of the range and new developments in television sets during the

1980s the process of manufacture is largely the same, dictated by a set of core processes of manufacture undertaken by all producers. The screen sizes require some additional coordination, to make sure *the right size screen goes in the corresponding chassis*⁴. The add-ons are additional printed circuit boards (pcbs), which although requiring much design, have a minimal effect on production. These add-ons can even be bought-in as kits and inserted in the modified chassis. HDTV requires design modifications to the pcbs and different screens (which are generally bought-in anyway). Speakers are always bought in to the assembly plant, so that stereo just means inserting two speakers instead of one in a marginally modified chassis.

In summary, these changes mean in most cases additional production work for a television set but never different work. For Television Research and Development and chassis design it means more work, some of it new. For the market, this variety and extension of the basic television allows, with each 'innovation' an extension of the life cycle of the basic television set. In the context of multinational organisations this means that production is for a highly competitive and in some aspects saturated market, although opportunities for further development have been identified by the multinationals. However, many of these developments may result in radical departures from the basic television concept in the future.

⁴ Chassis is the frame in which all the components of the television go, including the screen. A full explanation is given in Chapter Six.

STRATEGIES IN THE JAPANESE MARKET

In Japan the consumer electronics market has become saturated so that it now mainly serves to replace old sets, with the result that companies like Orki and Sanyo are coming to concentrate more on commercial sales (Interviews 17-3-89 and 17-4-90). Orki, for example, intended to increase non-consumer sales from its present 50 percent in 1990 to 70 or 80 percent by 'value' and personnel over five or so years, and to concentrate on six areas: information, communication (including computers), semi-conductors, Factory Automation (FA), air conditioners and Hi-Vision - a pattern similar to other manufacturers (Interview 17-4-90)⁵.

Wakasa (1990;67) stated that companies were concentrating on product differentiation based on small technical differences in products, continued aggressive marketing, and integration between products, such as VCRs (Video Cassette Recorder), Cameras, home computers. Wakasa (1990;55-64), moreover, perceived a strategy of increased globalisation as a way to *influence the market*. For example, *Kuda had a better reputation overseas than in Japan*, which executives put down to a lack of advertising in Japan (Interview 18-4-90). However, more generally, it was agreed in Japan that Kuda, like Honda, adopted a strategy of developing overseas markets rather than the home one first (eg Interview 18-4-90). Although this incurred the displeasure of MITI (Ministry of International Trade and Industry) (Morita;1987;65-6) it meant that these companies were less price competitive than other Japanese companies. It also meant

⁵ This trend is underlined by a comparison of Annual Company Reports of Japanese companies (Hashi;1989, Orki;1989, Sanyo;1988, Kuda;1989).

concentrating on 'latest' technology from an early stage (Morita; 1987;65-6).

Overall, then, the market was saturated and so profits were increasingly sought through market diversification and selling to overseas markets, including to Europe.

EUROPEAN MARKET

Doyle et al (1987), comparing UK, US and Japanese marketing strategies, found that the Japanese plants had clearer long term objectives than the others (1987;23):

[Japanese firms] had a clearer view of their customers and how their products would compete in the market. As the market changed and new segments emerged they quickly brought out new models to match, and exploited these developments.

Dunning, looking at the actual operations of Japanese companies in the UK, found that (1986;76):

There appeared to be little distinctive about the marketing or distribution practices of Japanese affiliates, but in pricing, they tended to be tougher than their indigenous competitors.

In the following sub-section consideration is given to the various approaches to the European market in order to discover which of the two opinions above is more accurate. This is done through studying general strategies and then the perceived implications of the Single European Market.

Strategies for the European market

Compared to the two local consumer electronics giants, Thomson and Philips, the

Japanese have not dominated the television market the way they have in other sectors. This is especially so outside the UK. The reason given by Japanese firms was that import restrictions applied in the early 1970s protected European markets (Gregory;1985;141-8, Kotler et al;1985;194). This argument holds a lot of validity when this segment of the electronics market is compared to audio, where market penetration is higher and imports were less restricted. The exception of the UK, with its severe consumer price competition, is a result of Japanese competition among local plants and a less powerful lobby against the Japanese competition than in France and West Germany.

One area where restriction can be maintained is in selecting standards for new product developments, such as HDTV. Phillips and Thomson have lobbied successfully to the EC to get their standard, called 'MAC', adopted *rather than the Japanese developed* HDTV. 'MAC' is the standard the Japanese have to adopt to apply for manufacturing licences if they want to enter this market segment. Denial of licensing could effectively stop entry or at least stall access of the Japanese so that market share is established by European firms and penetration from outsiders becomes harder (Interviews 17-3-89 and 18-4-90).

Each country within Europe has different consumer cosmetic tastes and different market emphases. More basic, smaller, sets sell well in Southern Italy, most of Spain, North Africa, UK and other 'less' economically developed / enhanced areas. In Western Germany, France, Barcelona, Northern Italy and Switzerland it is larger sets, with add-ons and sophistication that sell better. In Europe, the 'new' technologies of

Stereo and 'MAC' are priced high for a niche market at the luxury end of the overall market, probably to regain some of the development costs.

Effects of 1992 and 'single market'

The UK market for televisions, like that in Japan, is price competitive and almost saturated. This is quite unlike the rest of Europe, where import tariffs have maintained a higher price for television sets. In theory, it would appear, therefore, that the market would grow on the continent as competition and the abolition of trade barriers allows prices to fall. For this reason, the European market was seen as important by the companies under study.

Orki made Koorki their European television plant (Interviews 13-11-89 and 17-4-90), and the general consensus among managers there was that 1992 had already occurred, as 17 European countries were supplied from Koorki. Thus Orki was already an insider and, like Kuda, managers were proud of the Queens Awards for Export they had gained (Interviews 13-11-89 and 1-3-90).

Kuda could not say if Kokuda would be the centre of production in Europe as marketing strategies were still being developed (Interview 24-10-90). Kuda had eight factories in Europe, all set up without 1992 in mind. However, the "To our shareholders" report by the Chairperson and Managing Director, in the annual report (1989;2) stated that 1992 was encouraging further localisation. Possible isolation of the UK would end once the Channel Tunnel was built (Interview 18-4-90). In line with these developments the television sales headquarters in Europe had developed

more sophisticated plans to enhance the European operations. It intended to divide Europe into regions and establish, or expand, existing factories to supply each division, locally. There was much discussion concerning the method of segmenting - by country, by economic prosperity, by transport routes and so on (Interview 24-10-90).

Hashi management thought 1992 had been a good external force for them to develop the European market. In their view, they need a European headquarters to cope with competition from other Japanese companies! Hashi was establishing a Research and Development centre for HDTV, and was unifying its sales and manufacturing. A Japanese manager in Tokyo said (Interview 19-4-90):

We normally wouldn't feel compelled to establish a regional R&D centre. It wouldn't be cost effective.

However he thought there was a necessity in the case of Europe because of protectionist pressures, such as in the adoption of MAC instead of HDTV, which is accepted as the standard in most other regions of the world.

Kuda and Orki senior management agreed that 1992 was in itself not as important as the implications which the single market would have for the possible future integration of the less economically developed Eastern European countries (Interviews 17-4-90 and 18-4-90). Kuda was considering locating a production plant in one of the Eastern European countries and letting it supply that type of market (Interview 24-10-90). The other two cases, Hashi and Burg, were much more concerned with developing the markets they were already entering (Interviews 24-10-89 and 19-4-90).

Burg, had engaged in large scale acquisitions in order to increase European market share and to extend its markets beyond parts of Europe, to include the US. Production was especially concentrated in Europe, where television factories were maintained, while Audio production had been transferred to East Asia. It is for this reason that European consumer electronics manufacturers lobbied for selective import restriction, as a wide net would prevent imports of their own audio products. Koburg's senior management predicted that there would be a shake-out of manufacturers in the European market (Interviews 24-10-89 and 7-12-89), and they thought that most of the Japanese plants would close, or be bought out to leave a big three of Philips, Burg and Orki.

Hashi and Burg managements saw 1992 as an opportunity, whereas the others saw it as not very important because they had engaged in substantial production for export for a number of years already. The reason for the difference lay in past acquisition and expansion policies. Hashi and Burg took over existing UK-owned plants, which had supplied only the domestic market. This orientation had been hard to overcome because of production, investment, management and control problems. However, as these are sorted out, perhaps 1992 will appear as just a peg on which to hang a more export orientated strategy, which would emerge, regardless of the single market.

Thus, although there exist market segments into which differentiated televisions are sold, these are basically either (a) basic cheap sets or (b) luxury specification sets sold at a premium. As has been indicated previously, in assembly terms the difference between these two segments is small. It would therefore be inappropriate to categorise

the European market for televisions as anything other than a mass market.

INDUSTRIAL POLICY AND CORPORATE STRATEGY IN THE UK

The history of the European market has been based initially on small scale production companies producing for local-single country markets, with the exception of some state sponsored multi-product firms and giants such as Philips and Thomson. This situation changed as a result of increasing competition and there has been a rash of company acquisitions and mergers on the continent, and rationalisation in the UK. The continental market was more secure in terms of having a higher degree of protectionism than in the UK, allowing the major consumer electronics firms to become competitive vis a vis the arriving Japanese firms. The European Community seems to have taken a similar policy to those adopted within France and Germany, thus allowing home grown competition to stand a chance against the outsiders, in the same way that the Japanese domestic economy has been nurtured.

In Britain during the 1980s, many conglomerates hived off their less profitable areas, including television manufacture, which were then closed down or bought out by companies from East Asia. UK diversified multinationals such as Thorn-EMI and GEC have exited from the less profitable consumer electronics markets in preference for military and business sectors of electronics. Moreover, the British Government gave confused signals towards the sector, encouraging Inmos, as a high technology industry, then letting it disappear. Government policy towards the lower technology end, such as televisions, has been that the market 'rules'. One exception to this was

when Hitachi and then Mitsubishi, wanted to open greenfield sites, the UK government prohibited this as further endangering employment of the local competitors. Hitachi then resorted to a joint venture with one of the ailing locals. Thus UK government policy and low profit margins have resulted in the extinction of British owned capital from consumer electronics, and that which is left, such as brand names of chain stores like Dixons, are supplying products made in South East Asia.

EUROPEAN CORPORATE RESPONSE

Doyle et al (1987) found that in contrast to the Japanese marketing strategies within the UK, local firms tended to be production rather than market orientated. They were rather uncommitted to the UK compared to the "aggressive" Japanese strategy. If the European firms were to survive, a response was required to meet the Japanese challenge.

If the argument about the decisive influence of Japanese firms is correct, then it is reasonable to expect that European multinationals will also be influenced by Japanese firms and practices. To examine this point a comparison is made between Philips and Burg. This sub-section will include a brief analysis of Philips as a point of comparison with Burg. The intention is to show that Burg's market strategy is not necessarily indicative of the 'European response' to Japanese competition.

Philips is a diversified company with a long standing European-wide reputation. Diversification has taken place within each sector of the consumer electronics market

but has included unrelated diversification, such as petrochemicals. Diversification within consumer electronics had always meant Philips was present in business electronics and Office Automation (OA), as well as supplying 75 percent of the world's light bulbs. The multi-market strategy has extended to putting investment commitment into Japan, including a large headquarters in Tokyo. However, price competition from Japanese multinationals encouraged Philips to move much of their production facilities from Europe to developing countries in South East Asia. This was a poor strategic move leaving the company in serious financial difficulties up to the time of the research. In the process of copying, it had over simplified the multi-nationalisation strategy of the Japanese and started to lose much of its own competitive advantage, which derived from its European locations, avoiding import restrictions and duties. Television assembly was an exception to this overseas investment strategy.

In contrast, Burg has developed quite a different strategy based on 'late development' to borrow a term. Burg is a state owned industry which initially looked almost exclusively to supplying the domestic market for a range of consumer products. With increased competition Burg's Directors saw that (a) it was not possible to completely protect the domestic market from imports from within the EC, and (b) that in order to compete at all Burg had to be a "big player" (Interview 24-10-89). The growth strategy was based upon acquisitions of other consumer electronics companies, which were themselves diversified. These purchases were mainly within Europe but extended to some major purchases within North America. The result had been an overall growth in a short space of time, less than a decade, which had expanded the

Burg Corporation to many times its original size, making it a major multinational. At the same time, Philips had engaged in more limited acquisitions within Europe to consolidate its position.

Burg and Philips have very different policies towards relations with the Japanese. Burg supplied some parts through its subsidiaries to Kuda but did not seek any long term relations or contact, although this was not stated publicly. Philips also supplied parts, but additionally engaged in joint research projects with Japanese companies (Interview 13-11-89). The reason for the divergent strategies between the two European giants may be related to divergent forms of ownership, Burg, a nationalised industry, whereas Phillips is privately owned.

CONCLUSION

In conclusion, the market is complex in terms of competition and is not uniform across the whole range of products. A television set is not a uniform product because of different sizes and 'add-ons'. Nevertheless, the problem which remains for marketing is that largely indistinguishable products have to be differentiated. Another conclusion is that the peculiarities of the television market within Europe emerged as a result of selective import restrictions, keeping prices high on the continent and reducing competition. This both encouraged inward investment from Japan, and meant that most of this investment went to the UK, to a degree substituting for what previously was exported from Japan.

Different marketing strategies to deal with this were being employed both in terms of product targeting and supply sourcing. As competition intensified it would become more difficult for individual plants to attain increasing economies of scale to sustain lower prices, and to maintain profitable small segments. New product development provides some room for profits at the margins but requires large R&D outlays which may not be recoverable before competition arises.

At one level the Post Fordists can argue that in this mature market, near the end of its product life cycle (Reitsperger;1986;74), television set production is not relevant to their argument as such products represent the past (Sabel;1982; 199). However, there are two reasons why television production is interesting. Firstly, much research on Japanisation in Britain still relies on such cases, and secondly, the intense competitiveness of the market, the high number of companies engaged in this competition, and the dominance of the Japanese, means that here we should see all the tricks and techniques each company could muster to gain market share. The rest of the thesis will address these themes.

CHAPTER FIVE

MULTINATIONAL APPROACH TO CORPORATE CONTROL

INTRODUCTION

Japanese multinationals have been a centre of interest since the 1970s in the West, attracting much academic writing. This chapter will examine the organisation of Japanese multinationals, considering why inward investment was pursued and what Japanese capitalists expected from this practice. This will be achieved under the headings: Japanisation within Multinational Control; Power and influence of Consumer Electronics in Japan; Control Structure; Control Indices; Power of Expatriates; Comparison of Approaches; and Conclusion.

The chapter will explain the transmissions of control between the case study plants and their corporate headquarters. Although these mechanisms run both ways, to and from the UK plants, it will be shown that there was a high degree of centralised control in all the case studies. However, the transmission mechanisms of control, and therefore the nature of control, was different between the European and Japanese plants. Nevertheless, the assertion that there was a high degree of centralised control would tend to affirm a view that the Japanese cases represented 'Japanese best practice' in management style, including production and employment management.

Therefore, the case studies used in this thesis should provide ideal types for measuring the existence or otherwise of Japanisation.

JAPANISATION WITHIN MULTINATIONAL CONTROL

In 1976 Imanishi wrote expectantly about how the consumer electronics market would change. He predicted that low wage developing countries would produce labour intensive products for Japan and the European Community. Further, he talked of how Japan was loosing its competitive edge through wage increases, labour shortages, market saturation, *increased competition from developing countries in South East Asia* and *Western import protectionism* (1976;184-5). Many of these issues remain a feature relevant today, although Williams et al (1992) argue that Japanese capitalism can still rely on cheap labour from the high amounts of unpaid or low-paid overtime worked.

In an analysis of consumer electronics in Japan K Ohmae (1985;56) stated that:

Because Japan's major exports, for example, automobiles, consumer electronics, cameras, and watches, are so visible, the Western world has the false impression that all Japanese industries, and therefore management, are competitive and generally successful.

He then went on to argue that industry outside these areas were comparatively uncompetitive and has poor productivity. Further (1985;57):

If we remove these uncompetitive industries from the manufacturing sector, the remaining (that is, competitive) industries correspond to only thirteen percent of the Japanese working population. They are mainly assembly industries, with the possible exception of steelmaking.

Thus, overall, Japan's "power" is limited to a few industries.

He then explained that both foreigners and Japanese were unaware of this structural weakness in Japanese capitalism. This directly challenges the centrality given to Japanese capitalism in a new economic order on the one hand (eg Oliver and Wilkinson;1988, Kenney and Florida;1988) and, on the other, those who suggest that the Japanese cultural context provides the basis for economic superiority (eg Sethi et al;1984, Dore;1974).

Ohmae's description may mean that the headquarters of consumer electronics corporations in Japan have a responsibility to the Ministry of International Trade and Industry (MITI) and the elected government as the cutting edge of the development of Japanese Capitalism; teaching the inefficient how they may become efficient. At another level, these industries can attract the "cream" of the Japanese education system so perpetuating their dominant position. This may be more achievable because of the relatively small concentration of efficient capital. This may also account for competent managers dealing with what is relatively old technology - televisions.

For the plants, this had two consequences. The cutting edge of UK capital was in other sectors, so less proficient managers were retained in the consumer electronics sector, coming up against the cream of Japan's management. Second, with such a dominant position in Japan, overseas operations may have been politically low key in comparison to domestic issues of intense oligopolistic market competition and rapid product development. This could be especially true for companies that were seen as Japan's giants (eg Matsushita, NEC, Fujitsu, Toyota) and for Japanese on assignment

to the local plants (although this may be said of any multinational's expatriates looking after their own careers).

One qualification to this line of argument is that Clegg (1987;107-8) found that Japanese capital tends to export in high technology areas whilst only allowing low technology products to be produced in overseas direct investment plants. Thus, what arrived in Britain was well tried in Japan (Reitsperger;1986;74) and was no longer the focus for future growth of Japanese capital.

There is, however, a more general argument that Japanese firms are 'reluctant multinationals' and have been forced into the situation of overseas direct investment. The initial proponent of this argument was Trevor (1983), who suggested that external trade had been through trading houses but protectionism and fear of Japanese (note not European) competitors pushed them into import quotas. He argued that the reluctance was not because of production methods, which were anyway imported to Japan, but arose from management and personnel practices.

The implication of this reluctance is that in organisational terms there would be a reluctance to delegate control to overseas plants for fear of losing competitive advantage and a lack of competence in international operations. Franco (1983), Williams, Williams, Haslam, Adcroft and Johal (1992) and Nagano (Interview 28-4-90a) reinforced the 'reluctance theory' by arguing that investment in North America and Europe was done to promote or ensure the continuity of imports. Franco stated that even with expanding direct investment, the objective of multinationalisation was

in (1983;71):

Promoting Japanese exports of components and intermediaries indirectly by establishing manufacturing facilities 'upstream' in a vertically integrated chain.

Thus, the relevance of manufacturing plants in Britain was merely to ensure overall profitability in terms of continued imports. In this way, competitive advantages of home production were maintained by minimal expenditure on final assembly in the host country. The implication is that transferability of Japanese practices was, thus, unnecessary and irrelevant. Williams et al (1992) go further, to suggest that the local production plants were not here to make profits but as a political exercise to gain access for continued imports to Europe.

Takayama (1981) was generally sceptical about the whole idea of transferability because of the interrelationship between the development of technology and its social location. Others, qualify this, such as Dunning (1986;70-80) and Abo (1990;100-20) have researched transferability in consumer electronics and found that from checklists of practices, there were variations. Personnel and marketing methods tended to be localised, whereas company philosophy, Research and Development, and financing tended to be centralised.

A final argument is that Japanese capitalism is still immature in overseas investment and that in time it will mature (eg implied in Clegg;1987;30). This is not an important issue for this thesis, but has been dealt with elsewhere. The implication for this chapter is that, perhaps, the Japanese companies in this study were using the case

plants as learning experiences, rather than as positively contributing to accumulation.

This body of literature indicates in general that Japanese corporations wish to centralise control as far as possible, within the constraints of local markets and industrial cultures. The following sections of the thesis will explore the location of corporate control between Japanese headquarters and the UK based case plants.

JAPANESE GLOBAL STRATEGIES

The UK was seen by Kuda as a good place to produce televisions because of low wages, high ability to produce, and in Wales, a good attitude. Kuda had developed like a true multinational using local managers, informally supervised by Japanese 'advisors'. Japanese were used to teach locals how to use machines developed in Japan. This in turn was a learning experience for the Japanese. As regards the use of Japanese advisers Kuda was reticent about providing a direct answer - first pretending they do not exist then, when confronted with evidence of one, they said it was part of his management development training (Interviews 1-3-90a and 18-4-90). Advisers have more power than Kuda would like to admit and such advisers seem to be a common feature of Japanese firms operating in the UK (Field notes and Taylor;1986).

An Orki manager listed some reasons why the company had difficulty in transferring production overseas. He said "certain high-tech products could not be manufactured overseas" (Interview 17-4-90), not because of capital costs, but because of the competence of local skills to do precision work. He argued that 'it is not economical

to send the engineers to train locals as they are doing now' because while these engineers train others they were not developing or applying their own skills back in Japan. He went on to say that regarding responsibility "If we had more capable local people, we'd put more responsibility in the hands of local people" (Interview 17-4-90). Yet it was a policy to delegate responsibility to local people. Thus, this manager saw transferability as very problematic.

In order to 'prove his scepticism the manager said "We're weak in Europe" (Interview 17-4-90) with profitability being higher in Asia than in Europe. Furthermore, Orki opened a components factory in Europe 'only because of the local content rule'. So, *televisions were not making a loss, perhaps reaching a break-even point*, allowing Orki to keep a high profile in the market because in Europe there were customers for other Orki products which were more profitable (Interview 17-4-90).

The headquarters of Hashi thought that the British plant should become the centre of production for Europe but the local workers seemed content to only supply Britain. The number of engineers was being increased in their German plant. Overall productivity was lower than Western Germany but higher for wage productivity, though this was still lower than Asian countries. Productivity in the US was 'average' though increasing now.

According to a Japanese manager, local UK managers tended not to want much responsibility, only job security (Interview 19-4-90). To illustrate his point he

suggested that whereas in Japan quality inspectors went onto the line to locate potential faults, in Britain the all local-teams didn't. However, because suitable local managers were in short supply the threat of lay-offs would be dangerous. Thus, "We don't expect local managers to play a larger role. We have tried to change their attitudes but have had little success" (Interview 19-4-90). In the UK there were, relative to other Hashi plants, few Japanese managers, seven out of a total of 1,000 workers and managers (Interview 19-4-90).

After the buy-out Hashi sent many local managers to Japan for training, in Japanese management practices, although this does not seem to happen at the time of the field research. The expectation was that new recruits will get on-the-job training from their bosses, who had been trained in Japan, or were Japanese.

Overall, there was an impression from Japanese interviewees that local managers were seen as somewhat stupid and generally there was this feeling of 'under development' in the UK. On the other hand, shopfloor labour got mixed reviews.

Export ratios

Dunning and Cantwell (1989;1) report that the US produces five times as much by sales in Europe as it exports to the EC, but Japan only 20 percent. Thus, these overseas operations were only part of the relationship Japan had with European consumers and governments. In terms of operational efficiency Britain was seen as primarily cheap labour, but workers generally were also seen as having no enthusiasm and were unskilled.

Kuda exported only 34 inch televisions to Europe and about 1,000 to 2,000 per month from its British assembly plant. As from 1991, these would be produced in Western Germany (Interview 18-4-90), along with other sizes of televisions already produced to meet continental consumer demand.

In the 1970s, the head of Orki, produced a 50 / 50 sales plan of domestic and overseas production for the subsequent 10 years for all products, called the "Corporate International Cooperation Action Program" (Interview 17-4-90). Europe would be slightly late in achieving the target of 50 percent locally produced against 50 percent exported from Japan. At the same time there was an intention to double imports to Japan - "We will import anything" (Interview 17-4-90). Orki claimed to be the biggest importer to Japan of all manufacturers, for example importing a few large screen sets from the US (Interview 17-4-90).

Managers at Koorki were proud to inform that they produced 99 percent of Orki's televisions within the European market, the other one percent being specialist televisions, sourced from East Asia. Orki did not export any televisions from Japan but did bring a small percentage from other Asian countries. These comprised cheaper models, and high tech products could be shipped in future, such as HDTV and LCD screen televisions. Their market share stood at four percent in 1986, and about the same, three years later. Within Britain, where 40 percent of production was sold, the companies held six percent market share in 1986, behind the European multinationals and other Japanese producers (Interview 13-11-89).

Hashi exported large size and projection televisions from Japan. Small size televisions came from Singapore. Germany made some large screens and the in UK small and medium televisions (Interview 19-4-90).

Production was usually concentrated on the UK market although, as pointed out, Koorki supplied the rest of Europe as well. Specialist and low volume sets were produced in Asia, leaving European plants, and those in the UK in particular, to concentrate on simpler forms of production in mass assembly factories.

UK plants were important to the Japanese for supplying the UK consumer market, and in Koorki's case this extends to the greater European market. However, as later sections will show, this importance was relative, such that the European market was not a major contributor to corporate profits, perhaps with the exception of Kuda.

Purchasing parts and subcontractors

In the case of Kuda, discrete (surface mount) components were sourced from Japan and assembly components were sourced in Europe, because (Interview; 18.4.90), it was easier to use assembly components in Europe which suited a lower level of technology used in the European plants, than in Japan. The Kuda philosophy was to develop cooperative relations with the subcontractor to develop components, many of which were new. As regards local content, this was built up as production expanded to avoid delivery problems across the world, based on communications problems. Kuda had not encouraged Japanese sub-contractors to locate in Europe because of cultural and language barriers for the suppliers.

An Orki interviewee stated that the company had a policy of trying to raise local content as much as possible. Orki had not encouraged Japanese subcontractors to set-up overseas so far because it was not seen as necessary. Ninety percent of television components were made within the Orki group, though they tended to buy simple components, such as cabinets, boxes and mechanical components from outside the group. Wherever possible Orki had joint ventures with other European companies, including Bosch, Philips, Grundig and Seimens (in US with Kodak) but not with Burg (Interview 17-4-90).

In Japan Hashi made only the major parts of the television and subcontracts the rest. However in Europe, in order to meet local content requirements, these parts were bought locally, though they were of a lower standard. It was believed that in Asia parts were of better quality than in the West because Japanese production methods were used, and Hashi had trained Korean subcontractors in Japanese techniques in the past. For example, in the US all non-mechanical parts were brought from Asia, but the tubes from the US supplier had a much higher failure rate, though the price was cheaper. Chasses for overseas production were assembled in Asia because of cost and reliability. Generally, as far as local content restrictions allow, Hashi bought parts in Asia and exported them to other overseas plants. Hashi had not asked Japanese subcontractors to go overseas but had told them that production would stop in Japan so this may have been an encouragement! They were not teaching manufacturing techniques to Western suppliers, only the managerial style - the emphasis on quality consciousness, and providing strict quality and delivery time standards. It was thought that UK suppliers were learning by their mistakes, and that increasingly quality

control people in newly established overseas plants tended to be highly trained (Interview 19-4-90). Because the Kohashi plant was previously a joint venture there were local designers and more than 50 percent of chassis were designed in Europe (Interview 19-4-90).

Ownership identity in the branch plants

Local managers in the Japanese case study plants thought the plants were essentially British, despite the foreign ownership. On the other hand, workers and supervisors saw the plant as a Japanese one, controlled and directed by Japanese. This might reflect a wish by British managers to retain some status and feeling of power, or a view by workers of unique working arrangements¹. This split of identity was a strong feature of consciousness in the Japanese cases, and to a lesser extent in Koburg.

The general consensus from interviews undertaken in Japan was that the UK plants were not an independent profit centred but formed part of the global organisation of the parent conglomerates. In turn the globalisation strategy was born out of particular circumstances in Japan, which were not desirable for Japanese capital (Trevor;1983). However, the situation was complex, with pressures to localise with inhibitions to let much control decentralise.

¹ These explanations will be explored further in Chapter Nine.

POWER AND INFLUENCE OF CONSUMER ELECTRONICS IN JAPAN

This section will discuss various aspects of corporate power and control within the three Japanese cases, and Burg, to explain how plants were integrated into an overall global strategy.

The UK branch plants operated within a context of relations between Japan and the local plants. These were determined by the size of the plants and the revenue contribution they made in relation to the overall activities of the multinationals. This contribution may be measured not just in terms of sales or profits, but in terms of corporate image. This sub-section deals with these issues under the headings: size and product mix, and Japanese relations to overseas investment, and finally draws some conclusions.

Size and product mix

One rather obvious thing to say about size is that the UK plants were small in comparison to the size of the overall organisations. Based on their respective 1989 year end accounts:

Table 8: Size of the Corporations

	<u>Employees</u>	<u>Unit sales (1 million)</u>
Hashi	274,508	6,401,417 (£25,606)
Orki	193,088	5,504,250 (£22,017)
Kuda	78,900	2,145,329 (£8,5813)

(Source: corporations Annual Reports, 1989)

Although Hashi was the largest, and so would seem the most powerful producer, this is not necessarily so. Orki was seen as the giant, the pace setter in Japan and did effectively decide the format of VCR (Video Cassette Recorder), even though it did not develop any format itself (Morita;1987; 150 and Lardner;1987; 137-150). Hashi only had 16 percent of its sales from consumer electronics (Annual Report;1989), whereas Kuda received 16 percent of sales from televisions alone (Annual Report;1989). In 1990 Orki recorded 29 percent of its total sales from television and video recorder sales (Annual Report;1990). However, among these firms one point is clear, there was a strategic shift of product mix away from consumer electrical products to information and other industrial electronics (office automation etc), as Japan's domestic consumer market became saturated. The implication of this is that it is not absolute size or membership of a huge Japanese keiretsu² grouping which determines power and influence within the industry but size and influence focused within particular markets which facilitates Orki's position of dominance. Orki management's wish to sustain and extend dominance overseas may be displayed in its ever expanding number of plants being located in Britain - five other plants in the UK - establishing one in 1986, two more in 1988 and two in 1989 for different electronics products (Interviews 17-4-90 and 16-8-90).

² Keiretsu are post war reconstitution of Zaibatsu conglomerates, which were banned by US occupiers of Japan after WWII because they were associated with fascism and strong power centralisation to the benefit of a few ruling families associated with the Emperor. These Keiretsu have been accredited with forming the backbone of Japanese economic development by many writers, such as Clark (1979)

Japanese reactions to overseas investment

Disinvestment from Japan to overseas in the early 1980s was a serious concern, especially in relation to consumer electronics, incurring a strong reaction from the Left in Japan (see for example Ajima;1986 or Toda;1987). Although, at the time of the research, the feared 'hollowing-out' of manufacturing had not generally occurred³, the union movement, especially Denkirouren (Federation of Electrical Workers Unions), had been very active in providing policies and material to the general public and government officers on their employers' growth in direct overseas investment (Rengo;1989, and Interviews 24-4-90 and 26-4-90). The unions have tended to be interested in influencing the type of unionism growing in East Asian countries and protecting their own members (eg Nikkeiren;1989;15). Irie (1984) did find evidence of a decline in employment in at least one consumer electronics parts maker, as well as much data on export substitution. Such fears may affect the degree to which the state was involved in encouraging such disinvestment (Zimmerman;1985;157-8 and Kotler et al;1985;64-74).

The reaction from the labour movement is interesting in that Japan was the first advanced capitalist country where penetration into other markets was initially wholly achieved by exports (Trevor;1983 and Kotler et al;173-96). Only later export substitution took place. What was previously made by Japanese workers in Japan, was eventually made largely by British workers in Britain. For televisions this had become

³ By early 1993 there were strong indications that through recession and expanding disinvestment from Japan profits and even employment commitments were under threat.

almost 100 percent substitution, leaving the Japanese plants to produce replacements for the now saturated domestic market (Interviews 22-2-89 and 17-3-89). Even the few sets that were exported to Britain, at the time of the interviews, tended to be made in Taiwan, Malaysia or Singapore.

Conclusion

While the UK plants were only a small part of the overall contribution and employment of the Japanese corporations they had attracted considerable concern. Add British media and academic interest to Japanese fears and the significance of relatively small operations becomes magnified. Thus, UK branch plants operated within a goldfish bowl of attention, affecting the whole corporate image. For the Japanese, the UK plants needed to be played down, but for the UK public they should be made to look significant both as contributing to the economy, and as model employers. In this way, the Japanese corporate image makers fuel the academic debates about Japanese capitalist superiority.

However, while all the multinational corporations were huge, and in this regard their UK plant operations appear insignificant, the operation of European Community Tariff and Import Barriers placed local manufacturers, including Burg, at an advantage over the Japanese. Whereas Burg could switch production between plants within Europe, this meant that the Japanese were relatively tied to making a success of their single UK operations, or in the case of Kuda, restricted to a choice between Germany and UK plants.

CONTROL STRUCTURE

The structure of management control is determined by a complex set of relations within and between functions and communication networks. This section will analyze some selected activities in order to locate where control and power lay between Headquarters and the UK.

Organisational Structures

The Japanese Corporations had regional headquarters for Europe, and North America, to coordinate local operations. This contrasts with centralising all management functions within Japan for East Asian operations. Executives in Japan gave as the reason for the European structure 'in order to respond quickly to local production, the market, and for costing purposes' (Interviews 13-11-89, 17-4-90, 18-4-90 and 19-4-90). This does not explain the different treatment between East Asia and Europe. The Japanese recognised the peculiarities of the Western markets and capitalist formation and the contrast with their economic dominance of the East Asian region, supplanting military dominance of the past⁴. Moreover, whereas the Western plants tended to supply local markets, the East Asian overseas plants tended to be export orientated, thus needing to be integrated into the headquarters's global strategies.

Burg's control over Koburg's branch plants was being increased since the takeover.

A tier of management was abolished so that the UK branch plant dealt direct with

⁴ This is not a racist comment, but based on experience of conversations with Chinese, Taiwanese, Thai, South Korean, Indonesian and Malaysian, as well as right wing Japanese, over the past six years. Halliday (1975;293-9) and Sadao (1989;166-206) provide good accounts of the extent and dangers of this.

television headquarters in the European Capital (Interview 27-11-89). This same headquarters was part of an overall headquarters for all Burg operations. Moreover, sales were coordinated through the headquarters, being part of a division separate from production.

Within the organisations there were fairly 'standard' organisational trees, with functional separations, such as Purchasing and Production, and staff hierarchies, such as Personnel. The organisation of production relates to corporate strategies, which required differing management structures depending on the role of assembly plants. Thus, Koorki, Kokuda and Kohashi were given more decentralised control from Tokyo than their Thai counterparts. Koburg, on the other hand was tied into a central control by Burg. The reasons for these differences in tiers of management may relate to economic zones based on geographical proximity to headquarters, such that Thai plants were closer to Japan and Koburg to Burg.

Coordination and Communication.

The channels of communication and the methods by which local managers were informed of what was going on in global operations indicate much about control. If the headquarters was the locus for communication within global operations, such that a UK plant must go via the parent country to communicate with another branch plant, power was centralised. The interviews show differing areas of focus for coordinating global operations.

Koburg's managers had no formal mechanisms but neither were there any official

restrictions to direct communications with other plants. As there were no 'enabling' facilities, it seems that uncertainties in the Koburg plant about the future (and language barriers) focused communication on telephone conversations and informal meetings almost exclusively with headquarters.

Communication between subsidiaries in Kuda was direct. Marketing headquarters in Europe decided monthly production targets with the sales people in each country. Also, a UK executive was a Kuda Board member and Head of Kuda television Europe. There was also a liaison office in Japan which dealt with a 'window person'⁵ in the Business Group; television was a Business Group, as too was Video (Interview 18-4-90). Kuda had a policy of conducting meetings in English, even among the Japanese themselves. However, there was usually somebody from Europe in Tokyo to take part in such meetings. There was no formal communications network, so it was up to individuals, and personal contact was seen as the best way of communicating (Interview 18-4-90).

Orki was just starting to introduce a global information network system using an internal telephone system. Also, all the Regional headquarters had moved from Japan to the relevant locations. These headquarters were responsible for sales and production over the whole range of products. In Japan the organisational structure was split between sales and production and in production by product group. There

⁵ This Japanese manager was responsible for communication between the UK plant and overall operations in Japan. This not only had a formal element but provided the expatriates in the UK with access to current issues and activities 'back' in Japan.

were five secretary executives world-wide, one for each sector: audio visual, television, home appliances, information equipment and air conditioning. All decisions were taken regionally, including such things as calculating the economic feasibility of capital investments, such as robotics, and items such as wages were set locally, in the plant. For meetings with local staff "language is a big problem" (Interview 17-4-90), but between engineers it was not, because of the nature of the things being communicated and the commonality of technical items (Interview 17-4-90).

Hashi had a training school at the headquarters for overseas managers and engineers in Japan, which it considered a worthwhile, though expensive, exercise. Communications was mainly achieved through periodic meetings. *Designers in Europe met twice a year to develop next year's products. Accountants and presidents went to Japan twice a year and buyers met in Asia and Europe twice a year. For Koburg, twice yearly meetings occurred in London between sales and production. Costs and efficiencies were discussed but remained the responsibility of plant managers. Sales prices were decided by Sales. Shipping price was negotiated between the two. Sales and production were separate up to Japan level. If a compromise could not be reached locally it could be resolved between Sales and the Vice President of Consumer Products Group. Europe was the only area where a regional headquarters was felt to be needed, although there was increasing regionalisation. It was planned that the overseas headquarters would move to Singapore and merge the Asian subsidiaries into one over the subsequent two years* (Interview 19-4-90).

There were clear problems in organising effective forms of global communication networks capable of carrying a corporate identity. Orki was the only one of the three to attempt advanced formal networks which allowed, even encouraged, horizontal communication. The other three relied on periodic meetings and informal communication, which signify either a lack of interest in communications systems, which was unlikely, or a wish to centrally control communications. This latter approach may have also increased information reaching the headquarters, as problems which individual plants may have feared declaring directly may be admitted if there were other plants facing similar problems. Any dangers of loss of control by the headquarters which this may facilitate were unlikely because expatriate Japanese would fear its affect on their personal careers. Thus, ultimately centralised control was maintained.

Informal relations.

A distinction needs to be made between local managers and expatriates in terms of their informal relations. For locals, informal networks were established as a result of formal meetings and training periods. In contrast *the expatriates had much more* scope for extensive networking than locals. This was extenuated in the Japanese plants because the multinationals had adopted a strategy of very close contact between the centre and the local plants. Japanese managers were in constant contact with their work mates in Japan, in the 'mother' plant.

In Koburg, contact with headquarters by local managers and engineers was rare. Contact with other plants was also rare, except that when some equipment was

transferred from another plant some local engineers and technicians met home country counterparts. However, friendships were not readily established in these exchanges (Interviews 6-12-89a and 6-12-89b).

The introduction of a European Headquarters for Orki and Kuda had reduced some direct communication between the expatriate managers and improved that for locals. However, because the UK case study plants manufactured televisions, the Japanese expatriates had much more in common, for most issues, with the 'mother' plants in Japan than with the regional headquarters in Europe (Interview 28-6-90). These potential conflicts of interest among expatriates which could result are discussed later. The informal communications, language and perceived cultural differences put locals at a significant disadvantage in dealing with the Japanese. This process contributed to an 'us' and 'them' atmosphere in the plants, at least among those off the shopfloor, notably managers⁶.

Conclusion.

Orki was the only case where significant steps were being made to integrate the Koorki plant into a global network. The others relied on formal meetings and informal contacts for information. The result was that communication was for, and through, home country nationals. Informal barriers of language and personal contacts

⁶ This draws on my own experience in Japan, both when I could not speak Japanese and when I was more proficient, witnessing those who could not communicate. BBC's (1987) "Chopsticks, Bulldozers and Newcastle Brown" documentaries also showed such problems within Komatsu.

effectively precluded UK nationals being involved in much of the power base of each of the multinationals. Thus, power and authority rested with Japanese, who had a degree of independence to make decisions but were strongly tied, personally and organisationally, to the corporate management structures. Therefore, the case study plants were *Japanese* owned and run, and any issues of localisation of production techniques or personnel practices would be severely constrained by this Japanese power base.

CONTROL INDICES

Using two examples, financial control and location of research and development, an assessment can be made about the independence of case plants or centrality of control within multinationals. This will also provide some explanation of the reasons for the location of power.

Method of financial control.⁷

Williams et al (1991) explain how management accounting in Japanese corporations is primarily concerned with design and how individual costs relate to overall performance of the company, in contrast to US and UK company pre-occupations. The Japanese approach is, then, based on cost minimisation as part of a production strategy based on continual improvement - Kaizen (1991;11). To quote (1991;15):

⁷ Orki was reticent about discussing financial control, so this section analyses only Kuda and Hashi.

In the Japanese scheme of things every worker must be his own accountant just as he is his own engineer. Thus, in Sony television, the view was that even labour productivity measures were too complicated, abstract and indirect for shop floor use; the division's factory managers were expected to translate a request for 10 percent labour productivity improvement into "remove one worker in 10 within so many months".

The implications of this research are that control over design and long term budgets are the points at which control may be measured. Other forms of accounting, seen in Koburg, were less important in the Japanese cases. However, Burg was following the trend of regarding measuring market share as just as important as monthly profitability statements (Interview 7-12-89a).

Kuda saw Tokyo as the profit centre, and its role was to suggest how overseas plants could make profits. Kuda also gathered the overseas representatives together in order to make production decisions. Tokyo was also responsible for architectural research and bore the cost of that, even if they asked an overseas plant to help. In other words, the overseas plant could cost such research to Tokyo, even for Teletext, a feature exclusive to the UK market. All research projects were generated in Tokyo, although Kokuda could spend its own money to develop something itself. On the other hand salaries were a local management issue (Interview 18-4-90).

In Hashi, the individual plants were the profit centres. Overheads were centrally allocated to the plants but this was difficult. Each product design group was given an overhead of 10 to 20 percent. During budget periods, job descriptions of individual workers were compared to different factory tasks. This then allowed product costings to be made by apportioning each worker's pay-roll to each product (Interview

19-4-90).

In Burg, financial control was restricted to formal financial measures. There was an emphasis on overall control measured in financial terms, which was underlined by the fact that the only permanent expatriate was the Finance Director. He was responsible for the plant as a profit centre.

Although there were differences in the location of the profit centres between the two Japanese companies, because of high integration, formal and informal, the distinction is a little artificial. Williams et al (1992), Kotler et al (1985;152) Trevor (1983;197-8) and others indicate that competition between Japanese enterprises in terms of market shares is more important than short run profits, thus reducing the importance of the accountant, so dominant in the West, including the UK (eg Armstrong;1989), and within Burg. However, the location of the *profit centre unit does indicate how local* plant operations were seen. Whereas Kuda television manufacture was a global operation, and required global costing, Hashi and Burg localised accountability as an overt statement about the responsibility of local operations. Perhaps, the fact that both plants were takeover businesses highlights the need to express improvements in financial terms so that it was familiar to local managers, who were held accountable in such ways previously.

Location of research and development.

There are two levels or kinds of research: first basic, fundamental research for new materials, types of products, and second, design, production methods and product

market. Basic research is expensive, requiring very highly skilled labour and specialised equipment. For these reasons, it tends to be centralised in one place. Design research must be sensitive to local markets. As market penetration had been undertaken through exports, design research and development was centralised in the headquarters countries. With the shift towards local production, there had been a parallel localisation of design, and with decentralisation of such research can come greater autonomy of operations within Europe.

Kuda relied on European suppliers for unique European technologies, such as Teletext and Prestel terminals (Interview 28-6-90e). Burg and Philips were the first to design many of these new technologies but Kuda was the first to get them onto the market in marketable designs. These designs were created by local people. The procedure was that basic design, for example 'Superscreen'⁸, was carried out in Tokyo while Kokuda designed the chassis (Interview 18-4-90). Kuda found no problem obtaining engineering skills in Britain, preferring to employ generalists who were not specialist engineering graduates, and then training them up (Interview 28-6-90f).

Orki did most research and development at the main site in Japan but was planning a structure where there were regional research and development centres (Interview 17-4-90). This would facilitate such developments as English language technology. However, the local plant was experiencing difficulties recruiting and retaining

⁸ 'Superscreen' is a disguised name for a basic research invention. This was originally designed in Kokuda.

appropriately skilled engineers for design work in the UK (Interview 16-8-90f).

Hashi organised its research and development into two types each related to costs: (a) cost allocated directly to the product and (b) diluted overhead. The first was for product design and the latter for new product and broad-based research. Basic and new product design research was carried out at the central laboratories only, whereas product design was also carried out at divisional laboratories related to industrial sectors. There was no move to localise research and development for televisions as chassis technology could be standardised and circuitry differences were small. Only Studio (commercial broadcasting and the like) standard chassis were different (Interview 19-4-90).

Burg was the most centralised of all the cases and was committed to furthering this process. There was a policy, in the case of televisions, to centralise basic and most other forms of product design to a single location in Europe (Interviews 24-10-89 and 6-12-89c). One of the repercussions of this was redundancies in the UK and some feelings of insecurity, and certainly a loss of UK operational independence.

For the other three, Japanese, cases the basic design determined the basis of the productive process and so was a fundamental restriction of any potential local autonomy. Local managers and engineers looked to Japan for advice not only because of this but also because the Japanese plants tended to be quicker at implementing change. For instance, a new form of automated machine will be introduced into Koorki soon after the field research, but it was already running in Japan. As one

Japanese manager put it, "when someone is ahead of you in the game, you look to them as teacher" (Interview 17-4-90).

Basic research and production design was centralised in Japan, whilst much technology used in Europe was bought from indigenous manufacturers. The remaining design was produced within Europe, though not necessarily at the plants. Orki was leading the way towards increased design localisation for the so called 'add-ons - teletext, PAL (Picture Aptitude Lines, the UK system for number of lines on the television) and so on. There were genuine moves to localise research and so increase local autonomy in these areas.

The control of Koburg by Burg was very simple: direct control which treats Koburg as a branch plant of centralised operations. The Japanese were more complex, with the most Europeanised style of control being displayed in Kuda, and the most globally orientated being Orki.

POWER OF EXPATRIATES

The number of expatriates working in local plants and the positions they held indicate, much about the location of power and trust in the multinationals. There were three levels of expatriate employment: managerial, engineering and shopfloor. There was an additional category in the Japanese plants called advisors, who were not line managers but 'advised' local managers. This section will discuss numbers working in the branch plants, the preparation given to expatriates going to the UK, and the role

of such expatriates when in the branch plants.

Numbers of Expatriates

It is difficult to provide exact figures and jobs of expatriates in the case study plants because distinctions were made between short and long term stays, whilst the Japanese companies were reticent about discussing anything concerning their 'advisors'.

In Koburg there was only one expatriate manager, the Financial Director. Other executives visited the plant periodically but only for short periods. It was common for engineers to visit but more often the local engineers visited continental plants in an effort to standardise production technology.

In Koorki seven out of nine senior managers were from Japan, leaving Manufacture and Personnel to locals. There was one Japanese middle manager in production out of three. However, this hid two phenomena: trainees and advisors. Trainees came to the UK plant as part of management development programmes to learn about the international side of the multinational's operations. Advisors came to the plants in order to advise or liaise with line managers but their exact role is unclear to the outside observer. What is clear is that they tended to stay two or more years.

In Kokuda the structure was more complex because television was split into tube and main assembly, each with a senior production manager. Among other senior managers three out of six were local, controlling Colour Television operations, Public Relations

and Finance. The Japanese controlled Tube manufacture, the Chief Executive and Research.

Kohashi had moved from all 10 Directors being Japanese to five being local. These locals headed Personnel, Colour Television Manufacture, Quality, Micro-wave Oven Manufacture and Finance. More generally, among 27 managers, above the level of supervisor, there were eight Japanese in Kohashi.

Generally, there were no permanent Japanese managerial staff at levels lower than upper middle management in any of the case plants. Although statistics were not forthcoming from interviews, there were Japanese engineers in evidence in research and development sections of the plants, as well as young assistants in the offices.

In conclusion, the lack of direct control in Koburg was in marked contrast to the Japanese cases, especially considering that the takeover of Koburg was only two years old. At a similar period of ownership by the Japanese (two years) there would have been over 100 Japanese managers and engineers and many short visits. For example, after a period of two years of single ownership, Kohashi was swarming with over 70 Japanese staff.

Preparation of expatriates

There was considerable variation in the extent of preparation of expatriates by the Japanese parent companies, which is discussed below. In Kuda there was no training programme for Japanese going overseas. Staff had to learn the local language on the

job and go when and where they were needed, often at short notice. There was no special treatment for returning expatriates, though re-adjustment could be hard (Interview 18-4-90).

Orki had a training programme for both expatriates going overseas and local managers at a Training Centre. It handled about 1,000 people a year. For expatriates the training was supposed to last six months, but depends on the time available. There were also English language classes generally available. Returning Japanese usually took-up their old jobs (Interview 17-4-90).

In Hashi expatriates and their families were trained before an overseas assignment. Returning expatriates tended to either get their old job back or were promoted on seniority grounds. Usually only manufacturing people were sent but more recently designers, accounts staff and buyers were being sent.

These cases showed clear differences of approach to training. In all the cases, however, communication in English was poor and I thought there was generally poor preparation for Japanese going overseas to cope with UK customs and culture in the impression of the researcher. This might reflect the difficulty of work life for a Japanese 'salaryman'⁹ or a lack of understanding of the nature and problems of

⁹ 'The Japanese 'salaryman' is noted for having long work hours and his personal life is little considered by the company. It is not uncommon to be told on Friday that you must work in another part of Japan, away from family and friends, to then be expected to complete a normal twelve hour day on the Friday, and the following Monday in the new location.

multinational management. In consequence a kind of Japanese 'ghetto' formed in each plant of Japanese speaking and socialising, to the exclusion of locals.

Role of expatriates in the case plants

The role of expatriates indicates the degree of trust given to local managers and the perceived competency in areas such as production management. Moreover, there are issues of training managers to become directors of multinational activities.

In Koburg the expatriate had a clear line functional job, doing financial management. This shows that there was a strong line control from Burg headquarters down to the plants, via the financing mechanism. However, the Japanese, with greater numbers and more diverse positions had a less clear status in the UK plants. One UK manager in Koorki explained that (Interview 21-2-90a):

Targets are set by the Japanese but how we get there is up to UK management

Thus, the UK managers seemed to have a form of responsible autonomy based on discretion in achieving financial targets. A Japanese manager thought of it differently (Interview 16-8-90f), as:

Generally it is managed here [at Koorki] but contact is needed for Japanese know-how, new materials, etc.

This suggests that the relation was far more ambiguous, although responsibility still lay within Koorki. Whatever the formal structures, Japanese managers retained a strong hold over overseas plants. As Hishinuma (1986;98) explains:

Japanese firms tended to use operational and managerial control ...
[and] Japanese managers tended to be autocratic

This control is exercised on two levels: personal and through the management of business activities. These activities include centralised control of basic research and development, and through some ambiguity of financing arrangements, which allow corporate headquarters to change budget definitions in order to retain control over the unexpected! This ambiguity allows flexibility in managerial control from the centre without Japan absolving ultimate power.

Few if any of the Japanese would be permanently located, or see their career progression within European operations. They were more likely to be trying to maintain a foothold in Japan and may even have felt their careers were threatened by being out of the normal social networking, which is a feature of the Japanese management development system (promotion system). In such a situation it was unclear who the individual Japanese saw as his overall boss¹⁰. Another orientation of the expatriates was that, for their own career enhancement they saw the two or three year stint in the overseas plant as providing an opportunity to make a name for themselves by changing things 'to look good'. Thus, their interests may not have been that of contributing to the development of the operations in the local plant¹¹.

¹⁰ The emphasis is on *his* because there were no women in any of the branch plants at management levels. Some companies are trying to change this image, especially for international public relations. The UK plants were also male dominated.

¹¹ These ideas were developed from various discussions with Abo Tetsuo, of Tokyo University.

The Japanese plants used expatriates to a much greater extent than Burg. Although, Kuda was not interested in training its expatriates to the extent the others, all put their nationals in positions of strategic power in the UK plants. This allowed strong Japanese control and influence on local operations, in terms of the basic design of products, production arrangements, financial control and even output figures¹² as well as providing for the personal development of individual Japanese.

COMPARISON OF APPROACHES

Although the Japanese and the European multinationals arrived at their market positions through different historical circumstances, their strategies towards product mix and competition were largely comparable. All the cases showed a tendency towards centralised control by some means or another. However, there remained differences which could only be understood through the national origin of the multinational. This is not a culturalist argument but relates to the historical nature of the development of multinational capital in Europe and Japan.

Whereas the European conglomerates grew partly through internal investment much came from an aggressive policy of acquiring existing plants and personnel. On the other hand, the Japanese preferred to obtain greenfield locations from which to engage in export substituted production. Even when Hashi was denied this 'opportunity' by the British Government, it fought hard to replicate greenfield benefits

¹² This was done through financial control and decisions about the relation between imports and local production quotas.

at its joint venture site by claiming that Japanese ways of doing things were unique.

Another difference was in the method of centralised control. Burg relied on a simple financial control with budgets for capital expenditure and profit / loss centres. Burg also had separate functions for production and finance, within its plant and organisational structure. The Japanese were more complex in their approach to control, and relied less on finance and much more on informal communications between expatriates. On the other side, the communications between marketing staff and the local plants meant that the Japanese plants had a degree of autonomy from headquarters not experienced in Burg, which had rigid functional divisions within its organisational structure.

In conclusion, although there were differences between each case and between the countries of origin, it would be over-simplistic to hold to a view of Japanese uniqueness, except in regards to the strong networking relations among expatriates and between the UK plants and Japan. This, however, should not be over emphasised because there were definite and deliberate attempts to concentrate power among the Japanese, these networks merely lubricate the power structure in the conglomerates, rather than being the power structure itself.

CONCLUSION

The approach to multinational control in Burg was different to the conventional view of Japanisation. Kuda was most similar to the Japanisation picture, though with more

informal mechanisms and structure, while Orki was the most globally orientated. On the other hand, both Hashi and Burg were similar in trying to get formal local financial accountability established. The largest difference was in the importance of informal working relations which led to continuous flows of information which dominated and permeated through the Japanese multinationals. However, this network was a Japanese affair, precluding locals from access to the power base which such information enhances or facilitates. Thus, whereas Burg's UK employees (managers and labour) were controlled by budgets which were clear and public, in the Japanese plants their local counterparts had less tangible targets of control. The locals had to try to tap into the management networks through people who saw their long term interests not in the UK plants, but back in Tokyo or Osaka.

The Japanese companies were essentially controlled by Japanese managers and engineers located both in the headquarters, rather obviously, and in the UK case plants. Therefore, it is reasonable to assume that the UK plants mirror Japanese home country practices and, that what has become termed 'Japanese management style' exists within the plants. There may be some assimilation of indigenous UK production practices but these were ones the Japanese found acceptable without undermining their own power base. Although, it is likely that most assimilation practices were related to policies emanating from the Personnel Management function, it is necessary to recognise that any personnel practices are qualified by the production imperative. A major consideration in this is the forms of 'collective labour' management, which forms the focus of this thesis, especially because of the 'perceived' uniqueness of UK labour.

One final general point is that although it is possible to argue that these organisations were multinationals, in that they have production facilities in more than one country, they were not strictly global corporations because of the centralisation of control formally and informally. Although there is much confusion in the use of terms, within the definition used by Dicken (1992;47-8) these were all multinationals, according to Griffin and Ebert (1989;604-5) they were not, because, to be a truly multinational corporation, there should be no perceived difference between production locations overseas and home. The Japanese firms do make such a distinction, and so should be considered as *merely* transnational¹³. This distinction is not pedantic but acknowledges that however important the UK plants may be to the overall companies, this would never be allowed to dominate home country considerations. Thus, UK workers in the end were at the mercy of Continental or Japanese economic, political and even social considerations.

¹³ For the purposes of this thesis, the term multinational will be used because, confusion aside, this is the term most commonly used to describe these firms. However, the distinction can be made that these are not *global* firms, without a 'home' country.

SECTION II

PRACTICES

Section II is concerned with the way each of the cases operate, and is divided into three chapters. The focus of the section is on how televisions are produced in the four cases and whether these represented a new form of the organisation of production which may be described as 'Japanised'. The expectation of theories discussed in Chapter Two, is that the three Japanese cases should have shown a considerable degree of transfer of Japanese practices, whilst the European case should, either have been a poor emulator, or at least quite different from the other three in work and employment practices.

Thus, Chapter Six, 'The Japanisation of Production?', describes the production methods and evaluates these methods in terms of models of 'Japanisation'. Chapter Seven, 'The Organisation of Work', analyzes how labour was utilised, whilst Chapter Eight asks whether these arrangements amounted to 'A Flexible Organisation of Work?'.

Viewed as a whole this Section explores the labour process, which then provides a basis, together with Section I to explore the experience of workers within the process. The purpose of each chapter is to provide substantive information to enable understanding of relations to be dealt with in Section III through discussions of

production, work and employment practices. In addition, specific issues of Japanisation and flexibility are addressed, such as just-in-time production practices, lean-production, flexible working and employment patterns, and quality initiatives. A picture is painted of complex and contradictory practices where there was little conclusive evidence for Japanisation but much which identifies a wide gap between managerialist rhetoric and practice within all four case plants.

CHAPTER SIX

THE JAPANISATION OF PRODUCTION?

INTRODUCTION

This chapter focuses on the production process, indicating the contours of production, the tasks and jobs undertaken, and the degree to which these production methods were distinctive by focusing on points of comparison between measures of daily production operations such as output, relations with suppliers, quality and automation. The purpose is to explain how the cases dealt with the production issues of output, stocks, quality and automation to show whether forms of operations existed which may be seen as 'Japanese production methods', according to many authors, including Monden (1983), Sayer (1986), Schonberger (1987), and Oliver and Wilkinson (1988, 1989 and 1992).

Oliver and Wilkinson (1988) describe Japanisation within Direct Japanese investment plants, of which 52 percent of their sample were in electrical and electronics. They list an evaluation by companies of different practices, starting with production techniques used¹.

¹ Their evidence, however, for just-in-time relies only on purchases which are brought into the factory just in time to be used in the assembly process. However, it is generally acknowledged by the proponents of 'JIT' that it is dependent on most, if not all, the other practices also being in place. Thus, without flexible group working and zero quality defects JIT would not be possible.

Table 9: Use of Japanese production techniques

<u>Practices</u>	<u>Never used %</u>	<u>In use, planned, implementing %</u>	<u>sample</u>
Total quality control	0	100	19
Statistical process control	21	79	14
Quality circles	27	73	30
Just-in-time production	36	64	22

(Source: adapted from Oliver and Wilkinson;1988;120)

All these techniques are used in more than half the cases, with more than 90 percent of cases using the top three. Compared to the others, JIT (JIT) production is a relative rarity, being practised in almost two-thirds of the plants. Clearly, the transfer of production techniques from Japan is common, according to this study.

Oliver and Wilkinson asked respondents (managers in Japanese firms) to then evaluate how successful these practices were seen to have been in the British context.

Table 10: Evaluation of Japanese production techniques

Practices	No success	Quite-very success	High success	Mean 1=low	No. ²
TQC	0	4	8	3.50	12
SPC	0	6	3	2.89	9
QC's	1	8	1	2.50	10
JIT production	1	6	1	2.25	8

(Note: scale range is 1 -5)

(Source: based on Oliver and Wilkinson;1988;121)

Those practices which are more commonly used are found to be more successful, which is probably derived from the Japanese managers only implementing practices which are likely to succeed in their terms. There are few failures, so that it may be concluded that not only is there a high incidence of transfer of practices but the transfers are extremely successful.

This chapter will compare these findings by Oliver and Wilkinson with the research findings of this thesis by looking at output, suppliers and stock holding, concerns about, and control of, quality, then issues of automation of the production processes. In this way an analysis of the degree to which the cases needed to implement 'Japanese' practices could take place.

² This column was added to show the drop in response rate to these evaluative questions, of an average of a third (64% from a possible 97% positive responses to the previous question). With such small samples, especially for more taxing questions, it may be misleading to rely heavily on such survey findings at all.

Next the chapter will briefly outline the process in television assembly before addressing more directly the issues of whether these processes were uniquely Japanese or not.

TELEVISION ASSEMBLY

A television comprises of speaker(s), a tube (screen), an electrical device which fits like a yoke around the back of the screen, a transformer which steps up the power from 240 to over 1000 volts to power the tube, plus various circuit boards, including the tuner and connecting wires. All this is contained within a plastic case. The case itself consists of a chassis, on to which the screen and all the components are mounted; a 'backing' serves as the means of enclosure to complete the 'box'. In all the cases studied some components were bought into the plant, although, as will be explained, there was variation in the incidence of sub-contracted assembly processes.

The television is made in a number of stages but three basic sub-assemblies and a final assembly stage can be identified, for a diagrammatic representation of these processes refer to Figure 1. The main sub-assembly is for printed circuit boards (pcb), which holds all the electronics for colour, transmission, channel selection and so on. These boards are a common component in almost all electrical products, including televisions. Another sub-assembly process involves placing the tube (the screen through which the picture is viewed), with some attachments, in the 'box'. The last sub-assembly is cabinet manufacture, which is now a plastic case made in two parts - backing or cover and chassis. The main assembly puts these all together and

packs them for storage. Increasingly there are 'add-ons', such as teletext, but these are really just more pcb assemblies, introducing further sub-assembly stages. This can mean that in a large set there can be 13 different boards per set. Some are very small - a couple of inches square whilst others are the size of A4 paper. Moreover, all these processes are checked by quality control staff at each stage of the process.

CHASSIS - SUB ASSEMBLY

PCBs

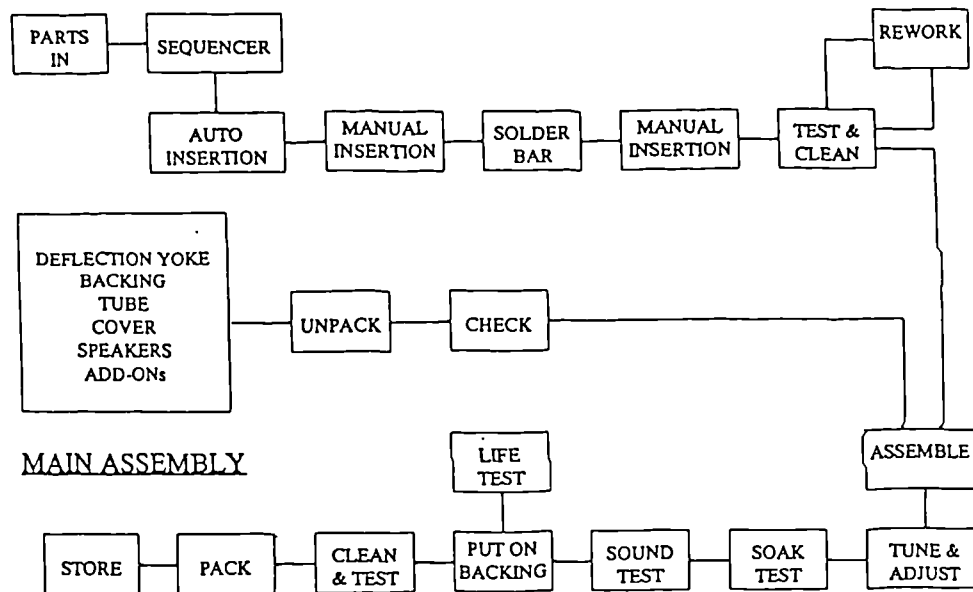


Figure 1: Model diagram of colour television assembly

In all the case studies the layout of the factory floor consisted of production lines dedicated to certain product types, with the exception of the auto insertion section, which was situated at one end of the factories.

Television manufacture within the plants was assembly production, with clearly demarcated tasks, which were defined in such a way as to avoid worker discretion in undertaking their tasks. The complicated television was assembled so that each

operation was straightforward. These sub and final assemblies involved a mixture of highly manual and technical tasks, but the process was designed in such a way as to minimise any specific task from being in itself complicated. Tasks were regulated by track speeds and, apart from manual insertion, most tasks required little handling by workers³.

FLUCTUATIONS IN PRODUCTION

There were areas of the plants which did not change very much, but elsewhere, production runs tended to fluctuate, particularly where batch production was operating. Batch production is a system where a given number of sets built to certain specifications are produced followed by another given quantity or batch of sets with different specifications. The latest variant in this type of production is called 'mixed' production, where several single items are mixed in a sequence to form a continuous flow of production. However, in Japan, and in these case studies, televisions were produced in batches, with size variations of between 200 and 1,000 units. This meant that in all the case plants on any given day there would be an average of one or two changes in the type of television being produced on a line. However, this may not have been very significant, especially as the chasses were dedicated to particular lines, throughout the assembly process. In spite of this, any change has an impact on

³ This distinguishes consumer electronics assembly from that of cars, where much handling of components is still required, even on lines which use many robots. This may be important in drawing distinctions between 'Japanisation' features found in auto industry and this research.

workers, never allowing them to become completely 'robotised'⁴. At the same time change incurs a cost for capital in terms of some lost production during the changeover, with the potential for quality problems. The implications of this will be discussed later in the chapter.

Each week the supervisors knew what changes were required and the size of the batches, so that they could plan production for the following week to try to minimise the disruption that changes in batches caused in the case plants. Managers in the plants were conscious that breaks for toilet, tea and lunch interrupted the flows of production lines (Interview 28-6-90c and 6-12-89). Although these breaks did not change what was produced, the implication was that, for the individual worker, one batch became two when they took a break. In other words, as a production manager in Koorki explained (Interview 21-2-90c), breaks from work also break concentration and so when returning to the job the worker needs time to readjust, even for the most simple and repetitive task, often resulting in an increase in the number of rejects coming off the line.

FACTORY AUTOMATION

In all the plants the level of sophistication, and extent of use, of technology was roughly similar, although the production layout was different. Moreover, some plants,

⁴ At a minimum, workers were required by capital to be adaptive. In this process of adaptation there is a degree of discretion elicited from workers, which negates complete 'robotisation'.

such as Koorki and Koburg were further advanced than the others in introducing new manufacturing techniques. Koburg's engineers talked of a time when they introduced too much technology, which "banged up the system" (Interviews 6-12-89b and 17-7-90c). This reflected a period of paying close attention to what was seen to be happening in Japan, rather than what was appropriate technology for the task. Kohashi, on the other hand, still suffered from a lack of investment in places, which went along with the history of the plant being neglected for many years prior to the Japanese takeover (Interview 15-8-90a).

Cosmetic changes were made to sets all the time but there was no clear market niche to exploit. All the producers were innovating at the same time in the same sort of areas, both in terms of the product and in terms of production technology. This was why the plants were remarkably similar in design and level of technology. Thus, the product competition discussed in Section I extends to the plants, to create a competitive stalemate which gets ever more vicious, as one, then another, tries to gain advantage only to be matched by the rest. In such circumstances, it helps the plant to be part of a large supportive multinational in order to gather information on competitors and to develop and test run new production techniques. The next chapter will examine how such pressures impact on the organisation and experience of work in such a hostile environment.

THE IMPORTANCE OF DESIGN

The chassis is the main item by which different televisions are separated, as this is

the basic unit which contains the main boards. The screen is also important, though in terms of its effect on the assemblies, the basic tube shape and size is very standardised. Design changes can have an effect on almost everyone in the plant, although to varying degrees, as will be shown next.

Design was mainly, though not exclusively, done in Japan for the Japanese case plants, whilst at Koburg it was transferred to the European headquarters. When a new design reached the plant, the first stage was pre-production runs, before going on the lines of the factory floor. These stages were: to check that the design actually works, to work out what changes would be needed in production, and how changes would be handled.

Detailed descriptions of changes in pcbs, including different parts, where they go, and whether they could be auto-inserted⁵, were drawn up by draught/ drawing technical workers. A clerk was then responsible for getting design sheets from the design department and filing them. This clerk then issues parts for the whole design to the different supervisors who then draw up diagrams for the inserters and minders, to see where the changes and insertions would be made. In addition, parts lists were issued to the auto insert minders and the parts feeders in manual insertion.

The reverse of this is that, once the main production started, unexpected changes

⁵ One of the most important design considerations is to increase the number of parts which are able to be inserted automatically.

were often made, with problems occurring which were solved while production was running. When this occurred, sometimes including circuit diagrams, the clerk who updated the specification sheets was informed. Most of these problems and alterations were spotted by the quality control staff on the shopfloor. Koburg's quality control checkers even complained that they did not get the diagram sheets very often, so designed their own (Interview 7-12-89b).

The effects of design changes involved the quality control workers, supervisors and managers for the most part. Attempts were made to minimise the disruption to shopfloor operators. Even so, Kokuda got 80 percent reject rates when design changes were first introduced on the shopfloor (Interview 28-6-90e). There was no reason to suppose that Kokuda was a different company in terms of its ability to cope with this type of change, especially as it had a reputation of being one of the two most innovative companies in the consumer electronics sector in Japan (Field Notes 1987/9). This implies that this was a difficult process, requiring management to work hard at reducing the effects of change. The result was an increased number of meetings at the time of the introduction of design changes, increased emphasis on quality control and the minimisation of major change *if* it was possible. The object was to reduce the period of time in which high rejects occurred.

PRODUCTION OUTPUT

The amount and variety of production, measured in batches, indicates how often change in the plants were required. Small production runs of very different types of

televisions may indicate a need for highly versatile workers and quality consciousness.

Koburg

Output varied according to consumer demands and the ability to produce to targets which predicted the demand. At the time of the early interviews in Koburg, the Production Manager planned to close one line down and share its 1,800 units a week between the others because of a shortfall in consumer demand (Interview 6-12-89c). Against this the Maintenance Department was being criticised for not achieving a two percent target for lost production due to breakdowns of machines (Interview 6-12-89b).

In Koburg it seemed important to separate the applicability of targets, such as whether demand fell short of output, from the achievement of the targets themselves. The objective was in fact to control as much as possible but consumer demand was one of the less controllable items. The fact that the shortfall in production output helped compensate for a lower than expected demand rate is irrelevant (Interview 7-12-89a). Both were 'problems' independent of each other because they were not related in their occurrence and they were deviants, variations from the management plan. Output was the ultimate thermometer of how well management was controlling the plant in the short term. Managers said that market share and/ or profitability were key indicators of long run performance (Interview 07-12-89b and Field Notes 06/07-12-89). Management had to be flexible enough to alter batch runs to take account of changes in demand but, with long production runs, and few models or model changes, stability was managed.

Koorki

In Koorki production capacity was increasing quite rapidly with continual expansion (Interview 13-11-89), for example, weekly production rose from under 10,000 to over 11,000 units by the next set of interviews nine months later. Still further, it was expected that seven to eight months following the latter interviews production would reach 12,600 units a week (Interview 16-8-90f). Originally, capacity itself was expected to be increased after two years, with an expansion into a new building (Interview 13-11-89), which was going to plan (Field Notes 16/17-8-90).

Seasonal variation in production at Koorki had been almost eliminated over the previous two to three years so as to maintain constant labour utilisation according to management (Interview 13-11-89)⁶. This required a very different strategy towards production scheduling, than in the other cases. However, this did not mean that production in Koorki was a constantly unchanging process.

Over 120 different models were produced in a year, with variations of about 50 different models in a month (Interview 16-8-90f). The reason for this was three fold. Firstly, there were a number of different screen sizes produced, from 14 inch to 28 inch. Secondly, there were the various add-ons, such as Teletext for some sets in each of the different screen sizes. Finally, there were differences in national taste, for design and legal rules relating to electricity safety within the sets (Interviews 13-11-89, 21-2-90a and 16-8-90f).

⁶ It is not clear that this is entirely true as some production variation persisted. The following chapter addresses this issue of labour flexibility directly for all the cases.

The objective was to have batches of a 1,000 in order to gain some economies of scale. However, this was not always possible, leading to batches of around 500 sometimes. The reason given for this was not only pressure for different models but also that the plans themselves could not be kept to because of the unexpected. New designs might not be ready, so causing half of another batch to be slipped in early, or the old batch extended (for example to 1,500 sets), or a shortfall in consumer demand on a particular model, or production problems, such as in supplies being late or providing inappropriate quality (Interview 21-2-90a).

Kokuda

Daily production targets were seen as being very tight in Kokuda (Interview 28-6-90e). Much more achievable were the weekly targets, based on those sets leaving the plant site. The reason was that some stocks allowed a buffer to form which daily targets did not allow. Overtime fluctuations were seen as the method to claw back any daily shortfalls so that the week overall was on target (Interview 28-6-90b). Behind these figures there were areas of sub-assembly which produced more than this 1,230 target. These sub-assemblies were for supply to other plants in Europe (Interview 1-3-90a).

Kohashi

Kohashi was reticent about providing production output data but concentrated on batches and model variations. Batches varied between 500 and 5,000 units, although all those supplied for Europe, excluding the UK, were small, being a maximum of just 500 (Interview 27-11-89). Compared to the other cases, these were small batch

sizes, reflecting a considerable loss of economies from scale. The number of models was also few with 27 different types of set, 18 of which were for the UK market. This included different screen sizes and combinations of add-ons (Interview 15-8-90d).

The implication was that the production system was the least sophisticated among the Japanese owned plants. There was no benefit in this system for Kohashi. If the fewer number of models allowed long production runs (large batches) there would be some economies of scale, allowing cheaper sets to be marketed as a compensation for the narrower choice for the consumer. This was the old Japanese marketing strategy and one now employed by Tatung (Interview 10-3-92). The down side was that the image of the company in the consumer's mind was lowered, along with the perceived quality of their products. Hashi must either be selling at a loss and suffering from this negative image or selling at a higher price but with a customer criticism of a lack of choice.

Summary discussion

In each case there was a balance between gaining economies from creating as little change as possible, against the needs to supply the markets. While Koburg tended to have few models for the market at any one time to avoid a lot of batches, Kohashi was caught-up in small batches through inefficiencies in management's ability to control quality. The other two cases aimed for production runs of around 1,000. One option for all the cases, was to produce very long production runs for stock; this idea will be discussed next.

SUPPLIERS AND STOCKS

Previously it was suggested that the cases differed in the degree to which they purchased parts and semi-finished manufactured parts. This section will discuss these differences in terms of 'just-in-time' manufacturing practices, by looking at relations with suppliers and strategies towards stock control within the plants.

Koburg

Koburg employed Material Requirement Planning (MRP) and MRP2, which are reasonably sophisticated stock control techniques. This does not mean that no stocks were held but that there was an attempt made to minimise stock holding between different points of the production process. When looking around the factory, there did not appear to be any excessive stocks when compared to the other cases or those seen in Japan (Field Notes 6/7-12- 89 and 17-7-90).

Relations with suppliers were quite complex in that with the change of ownership there had been some re-organisation of supply. This meant that orders for parts were switched to a more centralised organisation, with servicing supplying all the European plants. In some cases, the supplier plants themselves were part of the Burg group (Interview 6-12-89c). The implication of this was that Koburg was still in the process of developing new relations with some suppliers, which may be seen as a move towards adopting Japanese style relations with their suppliers.

One aspect of this 'Japanisation' was the introduction of visits to suppliers to help

with quality issues and to devise lists of criteria for compliance from suppliers. The works manager also said that they were "encouraging suppliers to adopt the QLP [Quality Leadership Process] process" (Interview 7-12-89a). QLP was a form of quality circle scheme, entry was voluntary and, although usually drawn from one work group, was not always. Launched in Koburg, it was intended that QLP was to be used throughout Burg, so some suppliers would adapt the scheme⁷. This indicated a desire by Koburg's management that suppliers should become more integrated into Koburg procedures. This was a development from supplier relations solely dependent on legal contracts which simply rewarded and punished compliance and non compliance of the agreed supply. At the same time, it implied a reduction in self-management and independence of the supplier. On the other side the supplier may have felt more secure, if Koburg was investing time and money in the 'encouraging' process. In reality, this may have been more wishful thinking on the part of certain Koburg management, rather than an active strategy. There were no discussions of sanctions, or preferential sourcing to suppliers who adopted QLP, but this perhaps indicated some of the problems of UK suppliers in seeking to maintain sovereign control.

Koorki

In Koorki, as in the other Japanese cases, JIT was more explicitly talked about. No one professed that JIT had been introduced, although some UK managers did say that they were trying to move in the JIT direction. One Japanese manager said that

⁷ A fuller discussion of the QLP programme will be provided in Chapter Nine.

nowhere in the company, including Japan, was JIT being introduced (Interview 16-8-90f). The Senior Production Manager (Interview 21-2-90a) in the same case said:

Change with just-in-time is very, very difficult.

Koorki tried to keep a buffer stock of three days between auto insertion and pcb manual insertion sub-assembly and to keep one to two days stock between the sub-assemblies and the main lines. Koorki also endeavoured to maintain one month's supply of finished boxed sets of 25,000. At the time of the interview there was only 20,000 units, but during the following five months, stocks would be raised to 50,000 or two months supply, with additional stock in transit to customers (Interview 21-2-90a). Some of the spare buildings were being used for warehousing on site, which would eventually be converted into expanded factory space (Field notes 21/22-2-90). This indicated that some stock holdings would be reduced subsequently, or located elsewhere.

The issue on the input side of the production process was whether parts used in manufacturing, or assembly, were stocked. In Koorki again there was a policy of stockholding for different time periods based on the nature of the component and supplier. For expensive and bulky items, such as tubes and bulky items, such as packaging, plastic backs and the like, three days stock was held. All these tended to be bought from fairly local suppliers. The tube could be an exception because special screens (very large ones) came from Japan because there was not the economy of

scale to produce locally (Interviews 21-2-90a and 16-8-90f). Moreover, as the screen represented about half of total material cost, this three days average holding was a significant factor in undermining the idea of perfect JIT. For smaller parts sourcing was often from Japan and South East Asia with a consequent delivery cycle, which means that 25 days stock were held in case there were problems in the supply lines. This gave an added dimension of inflexibility since for some parts there needed be over six months lead time between ordering from suppliers and delivery. This was clearly not JIT as it was intended in Toyota (Monden;1983). However, most of these small parts did not vary much from one model to another and were quite cheap, despite the transportation costs. It may well have been more flexible to buy the small transistors and capacitors locally even though they may not be as cheap or as reliable (Interview 16-8-90f) as those supplied from overseas.

At Koorki relations with suppliers were considered close. Obviously it was strongly based on Japanese style relations in South East Asia, with guidance and links through the headquarters in Japan (Interview 17-4-90). What is more interesting for the purposes of this thesis was Koorki's relations with local suppliers. There were comments about giving help and setting rigorous quality targets but also of deeper relations based on 'mutual' understanding (Interview 21-2-90c). A European multinational had co-developed a new tube exclusively with Orki for Koorki, even though the European conglomerate also made televisions. This required trust and significant technical cooperation which was unique among all the cases. This practice was not in itself a sign or even a movement towards JIT; but showed that Koorki considers its operations to be European based and displays a measure of the mutual

dependency often seen to characterise JIT processes (Wilkinson and Oliver, 1989). Moreover, 90% of tubes came from the single supplier, even if from different specialist plants of the same supplier (Interview 13-11-89).

Kokuda

Kokuda management were divided as to whether they were achieving JIT. The quality assurance manager thought there were JIT deliveries with reduced stocks and work in progress and reduced supply lead times to customers, together with increasing flexibility to cope with fluctuating consumer demand (Interview 28-6-90c). This confuses different aspects of a unified JIT process. The General Production manager was much more direct in saying "We do have so called just-in-time deliveries" (Interview 28-6-90e). On top of this he qualified the statement by explaining that in some instances short lead time deliveries, such as from a local plastics manufacturer, of only one to two hours inventory needed to be held, but for supplies entailing longer delivery times more inventory was required. For example, a ship from Singapore was said to take 19 working days on the high seas to arrive so higher stocks of such imported components would be held. On the other hand, 90% of components were said to be sourced in Europe (Interview 28-6-90e). One manager explained that the early stages of using the system of so called 'JIT' deliveries had caused many problems due to lateness, failures to place orders, and the like. However, at the time of the interview he said things had improved though such problems still occurred occasionally (Interview 1-3-90b).

Value items such as tubes and other components (deflection yoke, transformer) were

special cases for this plant because they were made on site. The internal stock holding between the tube plant and the assembly plant was just one days production requirements. The holdings of pcb mountings and main lines was just three hours' requirement (Interview 28-6-90e). One of the main line managers reported how on a particular day there had been a shortage of boards (stocks had run out) because a machine had broken on the pcb line (Interview 28-6-90b). Compared to the other plants, Kokuda had much tighter control over its work-in-progress and much less reliance on outside suppliers. This did not mean however that they were immune to stock shortages.

An exception to this tight system was in keeping high stocks of finished sets. With high consumer demand at the time of the field work only half of the normal stocks of boxed sets were held in store because the high season had started earlier than expected (Field Notes 28-6-90). This buffer required Kokuda to work overtime to match supply to demand and to rebuild stocks. Had the stocks not been there, the argument goes, customers would buy a competitor's set (Interview 24-10-90). While this argument may be made for stocks of finished sets, it cannot apply within the production process, because, although customers' demand is not controllable, internal management processes were. The problem faced by Kokuda was whether the cost savings of low stocks compensated for the loss of production when a machine went down, or when a part did not get ordered from a supplier on time.

Management claimed that, for parts that were supplied from outside, they might send advisers and engineers for two or three weeks at a time to assist their sub-contractors

if needed. Yet, at the same time, there was a deliberate policy of dual sourcing to encourage competition among component producers and secure supply in case of bankruptcy. On the other hand, it was said by the same manager that they would like to have a single source arrangement with good suppliers (Interview 28-6-90f). The contradictions between strategy and wish were unresolved however, because suppliers could not be trusted to stay reliable, or to remain solvent. No parts were sourced from Japan; they came predominantly from Europe, with 10 percent being shipped from Singapore and South Korea (Interview 28-6-90f).

So, although Kokuda attempted to approach JIT arrangements for some supplies, and some work in progress, this sometimes had a cost due to lost production. Moreover, these near JIT supplies do not qualify as full JIT because they were not single sourced components. This is important because it indicates that JIT is perhaps an unrealistic concept, a view also confirmed by studies in Japan⁸, where consumer electronics manufacturers commonly used more than one supplier for the same kind of components and kept stocks at each stage of the production process.

Kohashi

In Hashi the Japanese manager interviewed explained that there was no JIT in any of their plants because television makers do not face the same problems as car manufacturers, like Toyota (Interview 154-8-90g). In cars, he explained, there are

⁸ This is based on discussions with Abo Tetsuo and Totsuka Hideo of Tokyo University, and personal observations at various factories during stays in Japan in 1987-9 and 1990.

many bulky parts, such as panels and seats, with high warehousing costs. Televisions mostly have smaller components, so the cost pressures to introduce JIT are less. Moreover, he expanded, Toyota is such a big company that it could pressure its suppliers to become involved in JIT arrangements, whereas Kohashi, as a smaller company, had less power vis a vis many of its suppliers. Toyota also uses dedicated suppliers, but Kohashi's suppliers sold to other companies as well. Nevertheless, for Kohashi a main concern remained supplier relations (Interview 15-8-90g).

The Works Manager explained that they had tried to work towards JIT by reducing supplier lead times, but he felt this to be a difficulty because suppliers were not reliable enough (Interview 15-8-90d). Another manager saw this problem being overcome as European manufacturers became quality orientated. He also felt that parts being supplied were being delivered more reliably, as time went on (Interview 15-8-90b). But the works manager also complained that he had a "major headache" because a local supplier had failed to deliver supplies and that production lines were stopping. He explained that suppliers could be split into two categories: small and large part suppliers. Small parts generally came from very large companies and so deliveries were reliable. But problems came with the smaller specialist manufacturers. Such difficulties were compounded because the one or two reliable local suppliers, such as for plastic moulds, were being courted by all the other consumer electronics companies in the area. This analysis implied that Kohashi was low on the league ladder, because of its comparative small size, its checkered history and probably its financial constraints (Interview 15-8-90d). Thus, the hierarchy would be reinforced - the company that was relatively poor would stay relatively poor because it could not

guarantee itself 'good' suppliers.

Although no one would put figures to these comments, it did appear that there was a general lack of confidence which tended to suggest high stocking and more components being sourced from East Asia. Kohashi also imported several parts from Japan. This had been done first when the plant was taken over by the Japanese but had continued longer than had originally been planned because it was found difficult to locate suitable local alternatives (Interview 15-8-90b). As one Japanese manager put it (Interview 15-8-90g):

If I phone a supplier after say 7.00pm there is nobody in. This is the UK so must go by UK method. If UK member [manager or employee], they wonder why I contact them at Midnight on Friday. That is culture I think.

It seemed that Japanese expectations of local suppliers was much greater than the suppliers were prepared to give.

In the days before the Japanese took over, Kohashi had undertaken much more sub-assembly and component manufacture than it did at the time of the study. This was cut out under severe rationalisation but still, compared with Kohashi in Japan, many more of the processes of making a television were internal in the UK. The argument offered for doing more things in-house was that there was a lack of appropriate sub-contractors. But, at the same time, the original rationalisation was undertaken in order to reduce the complexity of management associated with a disparate range of skills applied to constantly changing activities because of consumer demand (Interview 15-8-90d).

Summary discussion

Thus, each case plant had slightly different circumstances which caused them to adopt a different strategy towards their relation with suppliers, stock levels and control of work in progress. Koburg had the most hands off approach and Kokuda the tightest. Koorki was more inclined to try to keep its production lines running and to bear the cost of stocks in order to meet customer demand. On the other hand, Kohashi seemed to be much more reactive. Hence, it appears that Koorki was the only one of the four cases that managed to keep its labour working constantly, thereby avoiding the psychological problems of line stops. This point will be considered further in the next section.

Finally, the forms of JIT practised in these plants, were fragmentary and corrupted. Moreover, whilst some local managers wanted to give the impression that full JIT was a realistic management objective, Japanese interviewees were more sceptical about its application within the consumer electronics industry.

QUALITY MANAGEMENT

One popular view of Japanisation is that quality is the concern of every individual worker and as part of this there is no need for specialist and separate quality control staff. Tying this in with supposed JIT procedures, supplies must be relied upon for quality so that there is no need for inward goods inspection. Another view of Japanisation relating to quality is that quality is paramount. It is assumed that unless

there are 'zero defects' there is no truly effective production. Even if we accept the Buddhist concept of the impossibility of reaching perfection, and that zero defects is therefore not possible, there is still the managerial rhetoric or commentators' hype which says quality is prioritised, first and last (Collard;1989, Shingo;1989;16-24). This sub-section will review these assertions within the case study plants.

Koburg

In Koburg there were a number of quality inspectors, falling into two categories. There were checkers on the lines and there were inspectors who bordered on engineers and who checked major parts of the television assembly and inward goods. These inspectors reported to the delivery and materials department, and not to main production. The ex-Personnel Director said that it was a management aim to reduce the overall number of inspectors and to try and get quality control incorporated as part of the individual operators jobs. To some extent it was hoped to this end that recruitment criteria would concentrate more on quality consciousness and that subsequent initial training would include a similar emphasis (Interview 24-10-89).

The main influences on quality were seen to be the recent rationalisation which had recently taken place and the introduction of new processes and machinery to the case plant (Interview 6-12-89b). Employees had problems in getting used to the machines, and to some upgrading in technology. It was also noted that some products caused more production problems than others, but this was not explained by managers (Interview 7-12-89b). Finally, the Personnel Manager said "it is very difficult to balance quality. In the busy season the quantity versus quality issue becomes large"

(Interview 6-12-89a).

Koorki

The quality target throughout the plant was a reject rate of 2% to 3.5 percent in Koorki. These targets seem very inferior compared to those in the comparable plant in Japan, which were 0.3 to 0.5 percent. The Japanese manager explained that this hid the fact that there were many more parts of the production process which were sub-contracted in Japan than in the UK plant (Interview 16-8-90f). However, an important consideration for management was that the UK plant was gaining an image of good quality from consumers, which was seen as pleasing. One manager said that all the Koorki and white collar 'members' were proud (Interview 13-11-89). The actual process by which this outcome was achieved involved a number of different activities.

The Personnel Manager stated that (Interview 13-11-89):

In reality, I think quality is the responsibility of everybody on site and quality is not just about the product itself. And I think perhaps Japanese companies, generally speaking, we're looking at the quality of the person, we're looking at the quality of the product, we're looking at the quality of the housekeeping, we're looking at the quality of the canteen, we're looking at the quality of every single aspect. But as far as the Personnel Department, we generate a campaign, we generate the initial interest in quality, not specifically about the product quality but the more global view of the company's quality image, its involvement in quality, because the product is sold as a quality product and so all departments are involved in quality...

Thus, it would appear that Personnel was very involved in the whole production process. Quality was sought as a deeply ingrained aspect of the 'company culture'

with Personnel as the prime mover.

The statement was very difficult to substantiate as fact, either for workers, or for actual quality. What may lie behind it is more likely that Personnel wished the working environment to be clean and tidy, and the food to be edible (Interview 13-11-89). Perhaps such an environment was seen by workers and managers to be beneficial, although it was not certain that this had any effect on their motivation to work.

Within the production process it was much easier to see the physical steps that had been taken to maintain or improve quality. One of these was in the organisation of work itself which can be seen in the following quote from the same Personnel manager (Interview 13-11-89):

The production set-up is designed for producing quality. An example of that is many of the small components look fairly similar but they have different values, different electrical values. You don't give a girl⁹ the same part, that looks the same and has got a different value, because she is likely to get them mixed up. And equally the girl beside her will not have the same part as she's got. They are totally different parts so that people are not swapping.

Work was organised with the expectation that workers might think in terms of output rather than think more deeply about the implications of swapping parts and

⁹ Women in the plants were almost always referred to as 'girls', although some were old enough to be the mothers of those men who used the term! Although the average age of the plant's shopfloor workers was young, this turn of speech signifies a perceived status divide on the part of those who used it.

the impact on quality (Interview 13-11-89). This suggests that managers did not trust workers and further, that quality came from management's ability to freely organise workers' work.

Within the bounds of the work, management claimed that there was still considerable scope for workers to deliberately, or otherwise, damage the television sets. There appeared to be some confusion here; the Personnel Manager went on to explain how different stages of the production process were broken into blocks, and quality checks were made between them. He explained (Interview 13-11-89):

The basic production process as far as quality in the production process, it is what we call a 'block assurance system'. So that each sub-assembly has to ensure that what they are producing and passing on to their customer, which may be another production line, is working before they pass it on. And there are a number of jigs which test that apparatus checking. So the whole process is quality oriented.

This quote is in contrast to the General Manager, a Japanese, who said that quality inspectors were only employed for goods inward and finished output and that all the production workers checked their own efforts. The confusion is cleared if it is realised that the Japanese General Manager did not consider all the checkers and re-workers as being involved exclusively in quality. The other inspectors he referred to were graded as technicians and engineers, so this may reflect a Japanese view of hierarchy (Interview 16-8-90f).

A recurring issue in this thesis is the production cycle for jobs. The senior production manager argued that quality was improved by constant work without breaks and line stoppages. According to him, it was better even to be under

pressure than to stop and start the lines as far as quality was concerned (Interview 21-2-90a). The argument for this approach was explained by supervisors and is based on the idea that workers lose concentration and break their rhythm when the line stops (Interview 7-12-89c), as was argued earlier.

Kokuda

Kokuda management saw quality as an important part of their products' success and welcomed the publicity which management association and state bodies had given them for their achievements in quality (Interviews 1-3-90a, 28-6-90c and 24-10-90). Such attention ignores the way in which reject rates started from over 80 percent following the introduction of a new model, and only through time were reduced to a few percent during production runs. This high point had been reduced as each new model was introduced by reducing the time period during which the abnormal reject rates persist. Thus, 10 years previously, the 80 percent reject rates may have persisted for several weeks, whereas at the time of conducting field work they lasted for only two or three hours¹⁰. This significant decline in quality at times of change-over and the consequent high concern with quality was a feature of this case plant in the UK (Interview 28-6-90c). The reason for the problems was unclear but they may be in insufficient pre-production planning, because of high consumer demand, and in the complexity of arranging production in all the sub-assemblies on site.

¹⁰ The object was to reduce the time to a few minutes.

The Personnel Manager argued that quality had to do with everyone in the plant and not just the Quality Department (Interview 1-3-90a). There had been a zero defects campaign running in the plant for five years with two directors (a local and an expatriate) heading it. This campaign was seen as trying to instil a culture in the plant based around setting targets for the different stages of the production process. Each time the target was reached the next target figure was halved. The other side of the campaign was ideological in that the worker was encouraged to think of the next person on the line as a customer (Interview 28-6-90c).

The Senior Production Manager said (Interview 28-6-90e):

In my job the major issue is quantity and quality together. It is very difficult to achieve both at the same time, so my job is very difficult.

This reflects the reality of the trade off within production which in the final analysis involves quantity .v. quality. With a high reject rate and high consumer demand it is likely that quantity was winning even though the rejects generally were contained within the plant; the quality checks spotted the rejects so that they did not leave the factory warehouse (Interview 28-6-90e).

The design of working time was discussed by two interviewees who gave opposing opinions. The Senior Production Manager explained that after five or six months on the same job a worker gets into a rut and quality begins to suffer. Therefore, frequent job rotation was seen as desirable. However, he considered that "there are some girls who just cannot and will never be able to do certain jobs" (Interview 28-6-90e). The Production Engineering Manager explained that to him the control of quality is "just

the control of change", including minimising disruptions to the constant flow of the production lines. For "a perfect example [of this kind of interruption of flow] is when somebody goes to the toilet" (Interview 28-6-90f). Both opinions may be valid: in the short term change interrupts concentration, but after a long time the concentration is replaced by boredom. Add to this the perception held by management that some people cannot change anyway and the process of managing labour is difficult; control is qualified.

Kohashi

The quality assurance manager thought that when the plant was British owned reject rates ran at around 30 percent overall, although no accurate records were kept. When interviewed he thought there was a three percent reject rate. However, there were still problems, with a target of rejects attained on the final assembly line of 0.1, but only achieving three times this rate. As a result, all sets were checked, and this took time and was costly. No other factory visited for the research in the UK or Japan had 100 percent checking prior to packing. Many problems were put down to suppliers and the process of improvement was also directed to improving quality from suppliers (Interview 15-8-90b). Some comments suggested that there were too few designers (Interview 15-8-90f), and this might account for some quality problems due to inappropriate pcb designs. Labour was not blamed (Interview 15-8-90f), but one wonders whether the high reliance on contract labour caused periods of high rejects; informants indicated however that this did not happen (Interview 15-8-90b).

Summary discussion

It is important to realise that the control of quality cannot be reduced to a fully automated activity and that human judgment is needed. To illustrate this proposition one can consider the jig which tests pcb circuits. Although a 100 percent of boards were tested on these jigs, the jigs did not test the quality of each board completely. To design and use a machine that is capable of a 100 percent checking would be much too slow to operate and too expensive to buy (Field Notes 13-11-89). Thus, there was a dependency on the workforce to 'do quality work'.

In reality in all four cases there were both separate quality inspectors and always a degree of trade off between quantity and quality. On the other hand the interviewees were generally concerned with quality, stressing its significance within the consumer electronics field. Among the managers at least, quality issues were seen as crucial in the overall company image for the consumer market place.

CONCLUSION AND IMPLICATION FOR THEORY

The process of television assembly is made up of a series of sub-assembly lines, each of which supplies materials for a final assembly line. Although the degree varies between cases, many of the sub-assemblies are bought in from outside sources. Kokuda was exceptional in its manufacture of the complicated tubes, but even here, this process was carried out in a different building, with a different workforce, thus simulating sub-contracted manufacture.

Television production is large batch assembly. This shapes the layout of the plants,

and significantly impacts upon the character of jobs and the process of management. Batch sizes are determined after considering how many units the market will buy in a period, and the cost of carrying stocks until the consumers do buy, against the economies of scale available from repetition. Moreover, it has been shown that, even with product variations, most production tasks remain the same. Historically, technological change has reduced the occurrence of some tasks, but rarely completely eliminated them. At the same time, televisions have been developed with more features and components built into them, but through mechanisation and automation, human input has been reduced within overall proportions, to just five percent of overall production cost. However, the ability to gain any sort of competitive advantage through automation is dependent on being able to be the first or only one to change. In the competitive climate of television manufacture, this is difficult, so that the position of the frontier of control between management and worker is a crucial factor in the ability to remain profitable.

Finally, because of the practice of centralising design processes the location of research and development impacts on the overall control of the manufacturing process. In the plants, there were almost no controls over design, which was concentrated in the multinationals' home countries. However, as designs changed and production problems emerged, a degree of discretion was ceded to the UK plants. This relationship between the control of the production process and the control of labour working the process will be explored in the following two chapters.

An engineer in Mitsubishi's Nagano plant in Japan said "The systems are the same

in all Japanese plants. Its just a problem of getting local labour like these in Japan" (Interview 17-3-89). Thus, a television plant is a television plant is a television plant. However, there were differences between the plants both historically and in the range of operations done within the single assembly plant. Moreover, the constant pressure of competition meant that technical and organisational forces faced by each television assembler induced constant attempts to introduce new methods ahead of the others. That said however, the changes were of degree, not kind. This still required assembly lines and even with the development of surface mount technology¹¹ for the assembly of pcbs the same process of auto machine minders and manual inserters were required.

A television assembly plant has a technology and set of worker requirements which set it apart from an automobile assembly plant. Yet, like car assembly, there are a number of very different processes occurring in television assembly. This creates implications for management control of the process, and shows that there are different kinds of fairly incompatible jobs, which restrict options available to management in terms of flexibility. At the same time, this statement gives opportunities for UK style union involvement, with their concentration on job rights and skill protection, points which will be developed through the thesis.

Implications for theory

There is little evidence in these cases of any drift towards 'Japanisation' of production

¹¹ Surface mount technology is a new form of making pcbs, which increases automation and reduces the physical size of pcbs.

practices by management in the terms laid out by Oliver and Wilkinson's survey (1989). By tracing the theoretical basis of empirical arguments advanced by important writers in this field it should be possible to analyze why Japanese production practices were absent from these four cases.

Monden (1983;1-5), a managerial oriented writer, defines JIT in terms of stockless factories, flexible, motivated workers, single sourced suppliers, small batch, even single unit production, and Kanban¹². In this arrangement these elements are brought together to form the single Toyota Production System. He also gives emphasis, within JIT and supporting Kanban, to such elements as standardised jobs and smoothed production. Yet he also states (1983;10) that:

The two pillars which support the Toyota Production system are Just-in-time and Automation.

In other words the Toyota production system is defined to include several different elements which integrate to a unified whole. JIT is only one of the elements.

We can ignore this whole debate if, as the Japanese manager in Kohashi (Interview 15-8-90g) indicated, Monden's description is restricted to the 'Toyota Production System'. However, the debate has widened to include Japanese manufacturing in general and consumer electronics in Britain. The irony of this extrapolation from a single case is that Toyota broke-up auto assembly into small factories because of a

¹² Kanban is a control system for ordering stocks based on a paper form which is attached to a component and tracks it through production.

labour shortage around Nagoya, where its first production centre is located (Japan Economic Journal;24-2-90).

The first radical analysis of JIT in Britain was by A Sayer (1986), who compared it with JIC (just in case) in Britain. He defined JIT as (1986;51):

The just in time / total quality control system ... is shorthand for a group of related practices. It emerged in the post-war period through the attempts of some Japanese car manufacturers - particularly Toyota - to adapt western practices to Japanese conditions. Strictly speaking, just-in-time refers narrowly to a way of organising the immediate manufacturing labour process and supplier-buyer relationships between firms.

These are supported by a context of labour market, skills and labour management relations. Then (1986;53):

Instead of producing at maximum volume in long runs in anticipation of demand, the essence of the JIT system is that work is only done when needed, in the necessary quantity at the necessary time.

Thus, small batch production was for actual, not anticipated, customer demand. But then he writes (1986;56):

Just-in-time is a system of mass production consisting of a highly integrated series of small lot production processes ...

Thus, Sayer's definition attempts to hide the inefficiencies of small batch production within the economies of scale of mass production. In the four cases being considered in this study, the Japanese and Europeans clearly saw a need to strike a compromise between mass, continuous production, and small batches. Although, the plan was for long runs, in practice uncertainty drove management to shorten production runs

sometimes.

Wilkinson and Oliver define JIT as simply (1989;47):

Just-in-time (JIT) systems of production are those in which goods are produced just in time for them to be used.

The article then shows how vulnerable this system can make capital because (1989;51):

JIT entails relative difficulty in substituting the actors in the production process.

This is because of the need for single sourcing, high skilled, functionally flexible, core workers and an absence of buffer stocks. In Japan, they argue, this is not a problem because of pressures which eliminate scope for disrupting the system. Not only that but both labour and capital benefit - higher pay and higher profitability. So that (1989;54):

This mutual dependency functions to reduce the likelihood of the exercise of power by either party.

Further, the employment relationship is seen as paternalistic. It is that paternalism which is seen to allow such a system as JIT to be developed¹³. It would be possible to explain the findings of this study in terms of a lack of trust of local workers and

¹³ The issues of employee cooperation and dependency will be studied through the remaining chapters, but here, the Cardiff Business School group's argument rests on these mutual dependencies in order to achieve production efficiencies.

suppliers, which prevented the transfer of such Japanese practices to the UK. However, as indicated in the introduction to this chapter, Oliver and Wilkinson (1988 and 1992) assert that such transfers are extensive and successful.

Voss (1990) is the only study where he and Ozaki-Ward actually carried out wide ranging research into the subject in the UK and Japan. The findings include the following comments (1990;4):

JIT is a broad rather than a narrow concept. Its broadness makes transfer difficult to Western companies.

There is a wide variety of practice of JIT in Japanese companies. Rather than having a Japanese style of manufacturing management, Japanese companies were found to be heterogeneous.

Many of the practices seen by the west as core JIT activities are not used by many Japanese companies practising JIT.

The term JIT is not widely used in Japan. It was originally known as Toyota Production System, and is still known by this name or derivations from this name in many organisations.

They define the core of JIT as being flexibility, flow and developing a chain of supply. This is done through tools on the one hand (eg. visibility, waste reduction, management of detail), and enablers on the other (eg. people, design, planned maintenance). These findings add up to a denial of JIT production methods in all but name and replace it with a set of techniques which attempt to cope with, rather than solve, the problems of individual capitalist labour processes.

Thus, Kokuda was introducing the strongest controls and relations with suppliers in an attempt to improve quality and reduce stock holding. Yet this was, perhaps only

possible because Kokuda produced, in-house, more parts of the television than in any of the other cases. Koburg had the most emphasis on quality, at least at the level of rhetoric. The aim of all cases, nevertheless, was to manage for stability, within a process which was inherently unstable. Crucial in this aim was a desire to control change by reducing it to a minimum, minimising its effect when management knew change would occur, and coping with crises when they did not. JIT production techniques as defined by Sayer (1986) and Oliver and Wilkinson (1989), within consumer electronics at least, was an unnecessary, over complicated, even outdated set of techniques. Worst of all, the continued credence given to JIT obscures the realities of labour process in Japanese multinationals.

The arguments, however, are marginalised if a more conspiratorial approach is considered. Shingo (1989;xix), in the preface of a Japanese edition of his book quotes another author, Ohno, as writing:

[I] hope that this book will enable many people to understand the Toyota Production system correctly and implement it successfully in their own plants.

If the secret to Toyota's success is its production system, then a secret it would remain, otherwise it would cease to be able to maintain a profitable position. Toyota's production techniques, which are seen as employing JIT systems mystifies the realities of exploitation within Toyota plants, and obscures reasoned debate around work transformations. The next chapter explains these complexities by looking at how production work is organised.

CHAPTER SEVEN

THE ORGANISATION OF WORK

INTRODUCTION

This chapter sets out to explain the organisation of labouring work in a television assembly factory. The purpose is to evaluate the impact of any so called job redesign initiatives which may have taken place. The aim is to provide an outline of the structure of work, and to illustrate this, by focusing on 'representative' jobs. In this way, the processes including the way the production system was organised and operates will be revealed. On the basis of this examination it will be possible to assess and evaluate the extent of 'Japanisation' and the introduction of flexible work organisation in later chapters.

The chapter is primarily based on interviews with different groups of workers doing three kinds of jobs (auto insertion, manual insertion and technical maintenance) at two plants: Koburg and Koorki. Further, for the purpose of comparison it includes some material gathered from the other two plants. The chapter is concerned with the organisation framework and job content. The first section will outline the structure of work in all four plants, including expatriate employees. The next section then examines in depth, three job categories within Koburg and Koorki. Third, a review of explanations for the sexual divisions within the workforce. Finally, threads of the discussion are drawn together by pointing to general features of the organisation of

work within the four cases, to enable further development in the following chapter.

ORGANISATION STRUCTURE

The organisational structure at the plants was functionally based, with departments headed by directors, or managers, for personnel, production, finance, purchasing, research and market support. There are two qualifications to this 'traditional' organisational structure: marketing and non-television assembly. The marketing support department in each case was not a complete department but in the Japanese cases liaised with separate marketing companies and in Koburg was centrally controlled from a European capital. The other exception was that in the Japanese cases the other products made on the same site, such as micro-wave ovens or video cassette recorders (VCRs), have a separate product director and managerial structure covering production, marketing and engineering. Koburg did not have a director for BSB¹ production.

Monden (1983) argues that the organisation structure of Japanese companies is flat relative to the many levels of management in UK firms. However, it is clear that in the Japanese companies such a clarity was not available because there was some blurring of definitions between manager and worker. It was possible to argue that there were a number of levels of workers who also undertook managerial duties. This will be explored when discussing the job content of what were called 'floats' later in

¹ BSB stands for 'British Satellite Broadcasting' a commercial television station using satellites. Koburg manufactured satellite decoders under licence from BSB.

the chapter. Management posts and the position of expatriates will be discussed next.

In Koburg, there was only one continental manager in the plant. He was the financial director. Others visited the plant, especially engineers but it was also common for the local engineers to visit continental plants in an effort to standardise production technology, the machines for making televisions (Interview 6-12-89). This was in marked contrast to the Japanese cases, especially considering that the takeover of Koburg was only two years old. At the time of the takeover in Kohashi there were a lot of Japanese at the plant (Interview 15-8-90a) and in the other two cases the start up was with a strong Japanese management influence². In Koorki seven out of nine senior managers were from Japan, leaving manufacture and personnel for the locals (Interview 13-11-89). Kohashi had moved from all ten directors being Japanese to five being local (Interview 27-11-89). These locals headed personnel, CTV (colour television) manufacture, quality, micro-wave oven manufacture, finance. In Kokuda the structure was more complex because television was split into tube and main manufacture. Among senior managers three out of six were local, controlling television operations (main television as in other cases), public relations and finance (28-6-90e).

In the Japanese cases it was difficult to gain a picture of how many Japanese there were in total, and what jobs they were doing. To illustrate, among 27 managers above supervisor level there were eight Japanese in Kohashi (Interview 15-8-90a).

² This seems to be a feature common among Japanese inward investing companies as evidenced in three cases in North East England, studied by Taylor (1986).

Generally, there were no full time regularly employed staff at levels below the upper middle management level. In Koorki, out of three production middle managers, there was one Japanese (Interview 21-2-90a). However, this hides two phenomena: trainees and advisers who were not considered permanent staff in the plants. However, as no people from these job categories were interviewed, it is difficult to judge their power and role within the organisations.

JOB CONTENT

This section describes the content of three types of jobs within Koburg and Koorki. The purpose of the section is to provide a general description of jobs with some comparison between case study plants, but mainly to draw a picture of different jobs involved in television assembly. The three compared jobs, auto and manual insertion, and maintenance technicians, represent the whole range of shopfloor jobs. It is not possible to compare numbers employed in each plant because the range of tasks may vary under the same job title and there is no accounting for part time or seasonal employees.

Auto insertion minders and loaders

Tasks involved in the auto insertion sections were machine minding, quality checking, transporting and loading parts into machines.

Koburg

There was little contact between the worker and the supervisor, perhaps because the

machine was important in controlling the manual work. Each person was in charge of the one machine. However, where two or more machines were linked together on the same track the minders would help each other out. Basically "AIS [Auto Insertion System] is all about working on your own" (Interview 17-7-90b).

The machines were noisy, although they were not kept in a sound proofed room (Field notes 6-12-89 and 17-7-90). The interviewees did not mind this situation, being reassured that the noise level was not dangerous and that it was regularly monitored by the safety officer (Interview 17-7-90b). One of the men commented that he only noticed the noise when all the machines "went down" (broke down or were switched off) as "it is so quiet" (Interview 17-7-90b). One woman said "I tend to shout when I go home but don't mean to" (Interview 17-7-90b) but she was not concerned about this. The only people to complain about the noise were the line workers who were on other lines close to the auto insertion section.

Koorki

At Koorki, like the Koburg plant, auto insertion workers were organised along lines, though there were six in Koorki. In contrast, the machinery was older and comparatively more workers were employed at Koorki, 40 per shift. Paradoxically, the age of the machinery and the organisation of work meant that these workers could pace their own work more effectively than the Koburg workers.

The auto insertion section attempted to achieve batches of 1,000 boards before changing, and the larger the boards, the longer the runs sought. The target for this

section was an output of about 40 boards per machine per hour. The program for the machines indicated a target output of 60 per hour. This did not allow for changing parts, or insert errors. In Koorki, unlike Koburg, the targets were made so tight that they were rarely achieved. However, it is debatable whether the minders in Koorki were under more output pressure than in Koburg. On the face of it, the Koorki workers were consistently under-producing so management had a gauge of failure. On the other hand the targets seemed to be considered as fictional. Thus in Koorki the workers "try for 70 percent to 80 percent" (Interview 16-8-90c) of the target, in effect regulating their own output targets (Interview 16-8-90c).

Once, when visiting the plant, Koorki workers complained that for the previous few weeks the output was "terrible" because of machine problems. It was just after a two week holiday closure "when all these machines were supposed to be maintained" (Interview 16-8-90c). Many of the machines were old and if a fault became persistent the minder would call in a technician. There was a lot of contact with the these technicians who worked from a pool and prioritised which machine to repair first (Interview 16-8-90c). This implies that there were quite a lot of machine related problems, again, implying that output was largely decided by machine performance.

Individual workers were responsible for a broader range of tasks at Koorki than in the Koburg plant. As a machine minder said (Interview 16-8-90c):

It sounds easy but little things can make it hard... if magazines won't go in properly or the boards are not going into the magazines properly or you got insert errors and you're walking backwards and forwards.

To control all of this workers were supposed to do 'Z Checks'³-every hour. This required stopping the machine then checking the parts sheets, which came with the programmes, against this the parts, magazines and the boards themselves; "they are supposed to tally (laughter)" (Interview 16-8-90c).

After the machines ran a while they could start to misplace a part. As the interviewee put it "if we do the Z checks every hour as we are supposed to do we will pick that up" (Interview 16-8-90c). As each minder was responsible for four machines, and each machine could put in 60 parts in a single board this could take quite a long time. It was supposed to take 10 minutes to check each machine, and with the four machines involved, it meant 40 minutes out of each hour was spent checking parts and parts sheets. As the minder indicated, that assumed there were no problems. Assuming no faults were found, it meant that out of an eight hour day each machine lost 80 minutes production. As the minder said (Interview 16-8-90c):

They want us to do the Z charts but keep the line going for the output
- you just can't be doing it.

The interviewees felt that the auto insertion section was a special place, separate from the rest of the factory because of the shift working involved. There were 40 workers each on a continental shift system, including the technicians and supervisors. The auto insertion section was in a new building, along with a few manual insert lines. Among the 40 there were about five women. Everybody interviewed was drawn to the shift

³ Z checks were a form of quality control technique used to chart the occurrence of quality errors.

work because they would have to put in about 40 hours overtime a month on the other lines to get the same pay as they get in auto insertion (Interview 16-8-90c).

Auto insertion was batch production, which was largely machine paced. At the same time, without proper monitoring of production output quality could be affected. The environment was noisy and hot, quite unlike the rest of the factory environments.

Manual inserters

Manual insertion was line paced work with workers placing small components on to boards. Each person inserted a few components on each board.

Koburg

Further along the line from auto insertion, at Koburg, manual inserters were employed, in rows of up to 20, totalling around 150 full timers, of which all but two or three were women. They worked in groups with shared experiences, which helped the formation of strong cohesiveness. Occasionally, an individual's approach to their work could cause 'internal' conflicts.

In manual insertion the operators insert 10 to 12 parts in a cycle time of 33 seconds; taking the example of one interviewee, her batch required inserting 11 components per board in 95 boards every hour. This was exceedingly repetitive work, where even the colour of the components did not vary. Not only that but it was fast work, with about 3.44 seconds per insert or around 1,045 inserts an hour. As an interviewee described the job (Interview 17-7-90a):

The job is click take, click take - there is no time to sit up and talk.
The work is continuous.

One hand takes a part out of the tray in front of the inserter whilst the other hand inserts the part, so that both hands are moving at the same time, something akin to the hand movement of the crawl stroke in swimming. Once the board has been completed a button is pressed to move the line along so that the next board stops in front of the inserter. On one line this movement happened automatically, after 33 seconds. One person, who had moved from insert to solder checking said "the pressure is off me completely now. No one likes going on insertion and everybody tries to get off it" (Interview 17-7-90a).

Output depended on whether there was a full work load to do, and in Koburg whether there was stock. This was not the fault of the inserters but because of parts shortages from suppliers. Consequently, the line frequently stopped, or treads water by continuing old batches for stock, until parts arrived. Inserters understood the wastefulness which results from such situations (Interview 17-7-90a).

As with auto insertion, there was a constant pressure for quality as well as quantity. Rejects were marked against each person and there was a computer behind them which indicated their current rejects, as well as a weekly report which totalled each person's rejects. The interviewees thought that the selection of who was at fault in creating a reject was unfair. One interviewee complained that she had four rejects marked against her that morning which were not hers because the parts had fallen out as the boards were turned over after the solder bar. She implied that machine errors

were to blame - the maintenance technicians fault, or an accident, ~~or~~ the fault of a person who had just been put on the line. She went on to say (Interview 17-7-90a):

You do feel good at the end of the day if you don't do any rejects - it does make you feel good. A girl puts in ten thousand boards a day and she gets four rejects - its nothing but you're made to feel its a crime. I can see that if everybody does it becomes a problem. That puts you under pressure as well.

Quality control was seen as a pressure yet at the same time a cause of satisfaction. The minders were aware of the cumulative effect of bad quality and yet it was still seen as all rather petty of management to get so worked up about four rejects in a day, a 0.044 percent reject rate for a person (Interview 17-7-90a).

Koorki

At Koorki, on boards which were large there were 13 parts inserted by each of 16 people on a line. On smaller 'H' boards, which went on the back of the tube, there were only five people putting in five pieces each. The output target was 1,200 boards on the 'H' boards a day but workers usually achieved 50 boards more. This meant a cycle time of 4.5 seconds an insert or 22 seconds a board. It may not be appropriate to compare to the cycle times in Koburg because there may be different types of components involved but the times were over 30 percent slower in Koorki than Koburg. The ability to produce above the target, as in Koburg's auto insertion section, implies that either the targets were too slack or the minders were not doing something which they should within their work cycle. In either case it reflects badly on management: either the work study times were out, or the 'bosses' were not making sure the workers did their full allotted tasks. On the other hand, work study

is a not scientific managerial technique, evidenced by changes in methods and job redesign (for a thorough discussion of this issue refer to Kelly;1982).

If the line is controlled by pressing a button, the line is controlled by the individual operators up to the point where the supervisor tells them to speed up⁴. However, an interviewee said (Interview 16-8-90b):

I find if I'm on a line the faster I go the better I am. I find if it goes slower, my mind wanders and I start missing parts ... I did enjoy going fast and that.

This has two implications: there is a speed at which the hand movements become automatic and the inserter retains concentration on their job. Second, one or more people can effect the whole line by 'playing games' with their work. It appears that for optimum efficiency the line speed or targets must be set at a level which kept the inserters busy, and kept the routine going.

The group, or team relationships, on manual insertion allowed one person, usually near the beginning of the line, to effect the work pressure on the rest. In the case of the interviewee, who "liked to go fast" (Interview 16-8-90b), she either did it in order to get noticed with an eye to promotion, or to relieve the monotony of the work by playing a game with herself⁵. She competed against herself on how many boards she

⁴ Burawoy (1979;177) shows how this autonomy becomes a form of control as workers rarely conflict with management over production goals.

⁵ A similar and much more detailed account is provided by Roy (1973).

could do in a given time, rather like a Japanese child will see how many beans they can hold between two chopsticks and still get it in their mouth. Notwithstanding the personal satisfaction of playing this game it was a selfish act because it effected the rest of the work group. Either there was a gap before the 'player', or a build up of boards after her which reflected on the rest of the group. The supervisor could ask why the flow of the line was not even/ smooth and could conclude that it was because the others are not working as hard as the 'player'. A conclusion that can be deduced from this is that when there is line working, where each worker is tied to the performance of the others, output is dependent upon the fastest not the slowest worker, because the fastest becomes the pace setter to which management will cajole the others to match. However, if there is not a 'player' in the group, output is regulated not by the individual worker, but, like a machine, by the group norms (Interview 16-8-90b). Thus, workers will always feel that work pace is regulated by an external force, not by their own volition.

There was one worker who kept a check on the quality targets and who recorded individual rejects, producing a graph charting each person from figures of the previous day's performance. Apart from this public record of performance, "If the same reject comes up which came from a girl, she will be told to keep a special check for it" (Interview 16-8-90b). Thus, there was a constant feedback to the inserters of any rejects which got attributed to them, in a model similar to that used by Robert Owen for worker control. The interviewee did not know the quality targets or the performance at the time, except that she was told that it was "still not good enough yet" (Interview 16-8-90b).

Clearly manual insertion was repetitive work with a mixture of pressures for speed and accuracy. The workers were conscious of these dual stresses on their activities.

Technicians

Maintenance people were employed to keep the lines going by both making repairs and trying to prevent breakdowns in the machines. These in-house technicians did not maintain the more sophisticated machines, which were managed by outside contractors.

Koburg

In Koburg, there were 31 technicians, who worked on either of two main tasks: planned maintenance and repairs. The two were seen as interrelated, such that more planned maintenance could reduce the need for repairs during line operation.

Planned maintenance was carried out by a special team which came in at night and, because there was no overlapping of shifts, supervisors have to consult with each other to check what problems came up during the day. As an interviewee pointed out, it meant that the person who had been dealing with a problem during the day, instead of maintaining the machine in overtime, leaves it for another person to come in and learn about the problem. It could be very difficult to explain to someone else the nature of a fault. The overall result of this was that the technicians lost some control over their work because supervisors became involved in passing on messages and could thus check up on the performance of their subordinates (Interview 17-7-90c). However, some workers argued that it was unlikely that this was why management

instituted planned maintenance; rather the aim was more likely to cut down the overtime payment costs which had previously been worked almost every night and weekend (Interview 17-7-90c).

Most of the work had changed from repairing manual switching equipment to process logic controllers (PLC's) which were just pulled out and replaced with a new unit. However, most of the mechanical work had remained the same, except (Interview 17-7-90c):

It is easier to maintain if you can get the components. They are supposed to be thrown away when they go wrong but here we have to repair them because there is not another in stock.

So, much of the mechanical work was patching and making do because of the expense of keeping stocks of components that might fail (Interview 17-7-90c).

Another quote shows the main concerns of the technician (Interview 17-7-90c):

When we work on one system all the time it gets boring. Also, we can get several problems at the same time and are expected to be a genius and correct them all at once. At times you have to look busy and other times you are busy. If there is a big problem often others are also busy so there is no one to come and help you out. Everybody's job takes priority and the supervisors are unsympathetic if you prioritise another line. You have to become accustomed - you say I will do it but then go and do somewhere else - never say no. She will get her boss if you do.

In one example (Interview 17-7-90c):

In the same way if a girl says she has had an electric shock - and you can't find a fault you say 'yes and I fixed it' to keep them happy.

The role of technicians in product quality was small but it seemed to be high in relation to output quantity. If a machine was down it could stop production completely. However, the interviewees felt that much of the blame for machine down time was not as a result of poor maintenance but inappropriate use (Interview 17-7-90c):

We don't get stick for quality but lack of production. We've had problems with R&D, which we get the blame for. An example is that they design one television and then make different screen sizes without testing them - we have had problems with sets falling over. We can put our comments forward to design one said but another says we have no input, we are told what to do, we know about design anyway! The same problem occurs on the line. We get told to put something on the line but the operator will say it gets in the way of their arm. But we put it in because we are told to. They blame each other.

Finally, there had been a split between technicians working on televisions and those working on satellite equipment manufacture. In spite of this, the technicians still helped each other out (Interview 17-7-90c):

... that is if it is allowed by those in charge because it gets a bit political then.

Management was more concerned with their own sphere of control and less with the flexibility of *their* subordinates. In contrast, these workers were open to some functional flexibility. This will be discussed further under the next sub-heading and in Chapter Eight.

Koorki

In Koorki there were 24 technicians, undertaking similar work activities to that in Koburg, but the atmosphere was quite different.

The one interviewee worked in a pool of workers but was also the leader of a team, which shifted, depending on the work needs. Part of his role was training, a recurrent topic for technicians in both cases. This was not so much to do with flexibility but with change within existing work areas. The interviewee said that (Interview 17-8-90):

One of the biggest problems is in training. There are so many new systems coming in and there is not enough time to be sent to college. We are given the manual and expected to be an expert on that machine. When I have to run a department, keep people busy, order stocks (there is no engineering stores) etc, there is not much time left for this.

This quote explains one of the main problems in maintaining machines. There was a lack of resources and time for training. Further, training was also hampered by other duties, such as organising stocks of repair and replacement components, and organising the introduction of planned maintenance into Koorki. As indicated (Interview 17-8-90):

I don't have any time to train my teams. If I am working on a machine I try to teach a person in the ten minutes as much as I can about that machine. I am supposed to be knowledgeable of all the tools but that is impossible.

The interviewee was not supposed to be doing maintenance but planning and managing the work team. He claimed that he selected members of the team based on their attitude, rather than their level of skills (Interview 17-8-90), from outside the organisation.

Planned maintenance was being introduced for the first time in the pcb section, excluding auto insertion but was not very effective at the time of the interview. "They

tried to implement planned maintenance in the past but there was such high labour turnover in the section that it was not possible" (Interview 17-8-90).

The image is one of a very hectic and quite chaotic factory at Koorki, which contrasts with Koburg. This may be further illustrated by concluding with another quote from the team leader (Interview 17-8-90):

I am responsible for maintenance in the new factory where pcb's are made. I want my own team to plan with but management is not very cooperative. Because there are still discussions between Japanese and UK managers about manning levels, budgets, etc. But it is only six weeks away. That's forward planning for you!

Finally, quality was only seen as an issue for the technicians as far as it referred to the solder bars which had their own specialist minders. The team leader tried to motivate them to concentrate on their work (Interview 17-8-90). This view of quality was exactly the same as in Koburg.

Discussion

A number of conclusions may be drawn from these descriptions. There were jobs which were very different in nature with varying degrees of line pacing and direct management control built into them. The plants were similar in many respects, including a generally ambivalent attitude towards the maintenance of quality and the quality of maintenance.

Koburg appeared far more organised and relied more on the responsible autonomy of employees than did Koorki, where there appeared to be conflicts between locals and

Japanese regarding what was 'best practice'. Perhaps as a result, targets set by management had become fictional guides for workers.

SKILL AND GENDER DIVISIONS

The work at these plants was divided by 'male' jobs and 'female' jobs and between skilled and non-skilled workers. Men did not do 'dexterous work' rather they did the more so-called 'skilled' work in assembly. They were also more likely to do what is traditionally 'heavy work', even though much of this 'heavy' work had become mechanised so that it was in fact 'light' work. *For example, boxing television sets after final assembly was not a heavy job because cranes have been introduced to place the sets in the boxes.* However, Cavendish (1982;76-97), and Phillips and Taylor (1980) show that such segmentation by gender is a common practice in manufacturing. The following sub-section will address the complexities of the issues raised under job gendering. The second sub-section will address gendered images of skill⁶. Finally, the sub-section will provide a brief indication of differences between the case studies in the degree to which they used gender to segment their employment arrangements.

⁶ For the purposes of easing analysis of job types, references to 'skill' (in single quotation marks) indicate definitions used by the management and unions in the cases. These people use categories of 'skilled', 'semi-skilled' and 'unskilled'. Skill, without quotation marks, refers to the author's personal understanding.

Employment gendering

One area that was almost exclusively male was auto insertion. The reason given by all who were asked about this arrangement was that shift systems worked in each plant (Field notes 24-10-89), although this was beginning to change with recent government legislation lifting the restriction on women working shifts in certain areas (Interview 24-10-89) but to what extent was uncertain. Women once did the jobs which were now embodied in the male attended auto insertion machines, so why were women not moved onto the automated machines instead of newly employing men? Armstrong (1982), studying a similar change, has argued that although the shift system guaranteed male working on nights, women could have worked the day shifts. Men cost more money but they were worthwhile because the company was able to gain higher return on investment by continuous working of expensive capital machines through the shift working, so men replaced the women. Armstrong (1982;32-3) provides two explanations. First, men, tired of permanent night shifts asked management for the opportunity to sometimes work during daylight, and thus shift rotations started. Second, in order to avoid being caught by equal pay for equal work provisions within the Equal Pay Act (1970) it is unwise to employ men and women on the same jobs.

Why did management pay the men more than the women? Why not lower men's pay to those of women in the factory and so reduce overall labour costs? Within these cases the differential factor was the claim of pay for skill and responsibility. As will be seen in the following section, auto insertion was not highly skilled work in comparison to other line jobs. Nevertheless, Harvey (1987) shows that where

technology is brought into male jobs skill upgrading is accredited, but where it affects women's jobs the technology is not recognised as enhancing skills. Beechey (1982;68-71) argues that much of women's disadvantage in the labour market comes from their unique relations within the family, which lowers perception of their labour value by men at work. Moreover, as will be shown in Section III of the thesis, women under value their own labour power, so that there is no overt resistance to this form of wage discrimination. However, I would add, along with Armstrong (1982;38-9), that the men gain their advantaged position often at a price: in the case of auto insertion workers this means compulsory shift working.

Other male preserves were management posts and maintenance/ technicians. Women had the preserve of telephonists and secretaries, without fear of job competition from men! On the line they were also almost exclusively working on the manual insertion sections. Their direct bosses were also female, although at higher levels the bosses were invariably male.

In jobs which were defined as 'semi-skilled' such as test and reworking, men and women share the job, although the jobs which women did before being promoted to test and reworking was almost always manual insertion. Thus, men have an almost guaranteed promotion to the more interesting and varied reworking. Men also tended to be more visible in main assembly. Although this was 'un-skilled' work, many men worked on these lines. Tuning tended to be female and packing was more male than female.

In all cases the 'skilled jobs' - maintenance of the automated machines and computers were done on maintenance contracts by outsiders. The other maintenance jobs, because of the nature of the basic technology, were mainly mechanically based, with some electrical work. In all cases these jobs were the preserve of men.

Gendered definitions of skill

Sixty percent of direct workers in all the cases were women, of which most worked on 'un-skilled' manual insertion assembly lines. The definition of skills, however, were initially defined by men in unions and male managers, although there was a degree of justification in some grading, by looking at the length of time it takes to train a person to perform a task competently. Using the example of manual insertion, it takes only a few hours to reach line speed, whereas it takes at least two weeks to become an auto insert machine minder (Interview 1-3-90b). Moreover, the range of tasks required for the minder is greater than for the manual inserter. However, if we study the nature of the manual inserter's job, it is possible to see skills in precision hand movements, concentration and speed of operation, none of which are present to the same degree in the 'male' jobs. Moreover, whereas companies will pay for the pre-employment training of a man's brawn, there is not a similar stance taken for the learned dexterity of women.

The definitions of those skills were initially produced by male trade unionists and male managers, and, though there was a degree of justification in some grading in terms of length of time it takes to train a person to perform a task competently, many classifications of skilled and unskilled could not be justified. Bradley (1989;166-8)

shows how within the history of the electrical goods industry there was a change in the sexual composition of employment in the early part of the twentieth century. From the birth of the industry in 1885, only men were employed in the factories, but with mechanisation and subdivision of labour the employment of women expanded. Bradley explains that (1989;167):

Women have been used for assembly tasks involving the manipulation of tiny parts and fine wiring, and also on assembly-line production where jobs are unskilled and repetitive.

By 1960 women constituted 40 percent of overall employment within the industry. Beechey (1987;39-52) argues that among the advantages of employing women instead of men are that women are paid under the value of their labour because of family relations which assume the male is financially responsible for reproduction, women as workers must buy products they might otherwise make themselves (so increasing aggregate consumption), and cheaper labour undermines the power in the labour process of male workers. To these advantages to capital, Beechey adds issues of flexibility in that women probably cost less to make redundant under legal provisions and are more likely to accept part-time or seasonal work than men because of their insecurity relative to men within the labour market.

Collinson and Knights (1986;146-50) argue that a number of factors lead to gendering of jobs: so that jobs are designed for women through technology, their cheaper cost than men and the historical subordination of women, in such a way that women are largely restricted to unskilled jobs. Phillips and Taylor (1980), argue against this form of causation by saying that it is women's inferior status within society which results

in skills they use being interpreted as inferior to those used by men.—Thus, women's work is unskilled because it is women's work, gendering the definitions of skill, just as sexes are ideologically ranked.

The other 'skilled' jobs, include floats and re-workers. The floats were skilled because of the work organisation and the human content. People go to the toilet, have problems or lapses in concentration. The floats were skilled in that they could do all the different so-called 'un-skilled' work on their section. The re-workers must know how to mend complex boards and the logic of the boards (the connections, parts) so that they needed a conceptual understanding of the function of the boards. The work was manually dextrous and also highly skilled, although it was not recognised as such in the plants, perhaps because mainly women did it!

There is yet a third way of defining the jobs - those tied to the track and those not. Of those tied to the track manual insertion was by far the most difficult and exhausting work. All the others, especially those off the track had rest time. All the off track jobs were tied to the track in some way by making them 'service' the line, by feeding parts or minimising down time, but they were less controlled by line speed. Women generally did jobs which were more tied to, and consequently more controlled by, the line than men.

Differences between cases

Among regular shopfloor workers, Koburg employed a few more women in the 'male' jobs than the three Japanese plants. For example, while there were some

women working in auto insertion on the day shifts, as mentioned previously, there was at least one man working on the manual insertion lines. These variations reflected geographical differences where the Japanese were located in 'heavy' industrial areas, with more 'machismo' communities, and Koburg's labour force was used to light industrial work.

There was some evidence, unsubstantiated, that Kohashi employed several men among its seasonal workers (Interview 27-11-90). This took advantage of very high unemployment in the plant's locality, which forced men on to the peripheral labour market, and to accept the same low paid, insecure jobs as women must endure.

Conclusion

In these case study plants, television assembly was organised in such a way that there was a strong sexual division of labour, which both took advantage of women's vulnerability within the labour market and re-enforced stereotypical views of skills and gender. Even as the nature of work changed, with the implementation of new technologies, or the tightening of labour markets, these divisions were perpetuated, even extended.

Finally, the impact of Japanese ownership on these divisions was minimal, so that the Japanisation debate, in itself, is independent of gender considerations. This is not to argue that gender is not an integral consideration of the labour process within Japanese owned companies, but such consideration relates, not to the form of ownership, but the nature of the industrial sector in which Japanese capital invests.

SUMMARY OF ARGUMENTS

There were an array of jobs, which were mainly controlled or directed at production line pacing. Thus, for maintenance technicians, just as for manual inserters, the line was the focus of activities. However, there were differences in the degree of mechanised control between jobs, so that a technician was controlled by their manager. Thus, there was a difference in the visibility of tasks, such that a manual inserter's quality and effort was almost immediately discovered, whereas a technician could hide mistakes for longer or even permanently.

Within the working process the interviewees of both cases were concerned with output and quality as competing objectives. Thus, although this supports Oliver and Wilkinson's (1989;74) statement that quality is the concern of everyone, it is only one concern. Moreover, when output falls, there can be demands by management for quantity at 'acceptable' quality standards. Thus, within these cases, total quality management or zero defects was not realistic of either workers or managers, as Taguchi and Clausing (1990) or Schonberger (1982) would indicate. Moreover, contrary to Sayer's (1986) argument that production systems developed in Japan represent (1986;43):

New types of relationships among workers, between workers and management ...

Within consumer electronics there was no such transformation but, rather, a shift in emphasis between competing objectives for quality and quantity. Instead, television assembly can be seen as being within more traditional models of Taylorism and Fordism. In addition, the organisation employment was strongly, and continuously,

gendered.

By concentrating on 'the new', proponents of a new form of industrial relations, and Japanisation in particular, have tended to pay too little attention to the way in which capital has successfully perpetuated the basic 'formula' of control over time. This formula of continually looking to segment and de-skill to increase control over workers, whilst at the same time, recognising the limits to which these can be done, have not changed, at least within the consumer electronics sector.

CHAPTER EIGHT

A FLEXIBLE ORGANISATION OF WORK?

INTRODUCTION

The most common feature of Japanisation is seen as issues centred around flexibility. Although it is often an assumed feature of employment and work practices in Japan, the relevance of flexibility to the UK context is still a point of debate.

Using Atkinson's model of the flexible firm (1985) flexibility can be broken into several categories based around numerical and functional flexibility. Numerical flexibility refers to the ability to change the work hours done at any one time by changing numbers of workers, hours of work for an individual (overtime) and in the longer term changes in shifts worked. Functional flexibility refers to the ability to change the work content of individuals (Atkinson; 1985).

The analysis in this chapter draws on observations and interviews in the four case study plants. The simplistic Atkinson model is used to outline the main features of flexibility although, by looking at 'cases in flexibility', at the end of the chapter some of the complexities of flexibility can be demonstrated. In fact, some of the contradictions of the whole flexibility debate emerged from the comments of managers in the four case plants in the UK.

NUMERICAL FLEXIBILITY

It has been shown in chapters Three, Four and Six that there was great seasonal variation in the demand for and production of televisions. How labour was utilised to respond to these requirements was limited to a number of choices, including numerical flexibility. Alternative management options included automation, keeping lines busy by making a second product to cover the slack season, or some kind of functional flexibility whereby regular employees might assemble sets in the busy season, May to October, and do design or administration in the quiet season.

Numerical flexibility may be defined as to do with changing the demand for hours worked (length of working quantity) either through modifying the work hours of existing labour or changing the number of workers employed in a plant or some combination of these two measures. This section will detail the different forms of such flexibility used in each of the cases: overtime, shift working for regular employees and the use of peripheral workers.

Overtime

All the cases used overtime to some extent, it being the easiest form of flexibility in working time available to an employer. Moreover, generally it increased in the second half of the year, although there was a great deal of confusion as to its purpose and its extent.

At Koorki the pattern of overtime worked meant that management rarely asked all the people on a line to work on at the end of the day, but rather it selected groups to

finish the day's target, or to prepare for the following day. Towards the end of the busy season there was some working every Saturday for an average of one-third of workers at any one time, although two Saturday mornings a month of regular overtime working were also being undertaken overall. In this period there could be one and half hours a night, except Friday. Auto insertion of pcbs was one major exception to non-productive (preparing for rather than making televisions) overtime. This was because the expansion in output to cope with demand was putting heavy demands on auto insertion machines. The solution to this was investment in new machines, which was taking place at the time of the interviews. However, levels of demand were still creating pressure for high rates of overtime work in the short term (Interview 13-11-89).

At Kokuda in the low season there was about two percent overtime of overall hours worked and 12 to 15 percent in high season of hours worked above normal. However, within any individual work group of 15 or 16, two or three people work some overtime over any particular period (Interview 1-3-90a).

At Kohashi, from September to late November there was double the overtime than at other times. In this busy season most people worked every Saturday morning for four or five hours and for two nights a week, each for two hours. This adds up to eight to nine hours extra production a week in the second half of the year (Interview 27-11-89). A manager in Kohashi described how, using three month production plans, the company balance human resources requirements between overtime work and employment of casual workers, as will be seen later in this chapter (Interview

15-8-90d).

Overtime serves two functions: to increase output or to undertake ancillary activities when the lines are stopped, such as to correct quality problems built up during the day. Koburg's management claimed that all overtime was used to prepare production for the next day, or next week, although one said that there was some sub-assembly work undertaken in order to build up stocks for the main lines (Interview 6-12-89c). The production manager did indicate that there was overtime done for non-output work related to engineering and even some reworking of output to adapt changes to original designs on the lines. A float operator at Koburg, who did paid voluntary overtime, explained how she tried to prepare the line with parts ready for a model change, and so on, so that when the line started the next day all would be ready for a quick start and a fast model change (Interview 16-8-90b). Much overtime work was for preparation or correction rather than direct production output in all the cases.

Personnel Managers in Koburg and Koorki considered that too much overtime was being worked and both wanted to reduce its cost. Koburg had introduced a scheme called 'annualized hours', where more hours were worked in the busy season, and less in the slack seasons, in an attempt to escape overtime premiums (Interview 6-12-89a). However, chapters Ten and Eleven will show that some was still being worked, especially in the busy season, leading to very long working days (Interview 18-7-90). Koorki had also introduced annualized hours but only for the white collar staff in the administration offices (Field notes: 21/2-3-90).

The production manager in Koorki commented that volunteers on overtime were assigned to similar jobs or lines on which they usually worked during the day, to avoid losing time through training (Interview 21-2-90c). In some instances this meant that lines were not able to be run because it was not possible to get all the workers on any particular line to volunteer.

Managers interviewed said that overtime was voluntary and there were no problems getting enough staff for the work needed. A manager in Kokuda admitted that if a person was found not to be volunteering for overtime after a period they would be asked about their "overtime commitment" (Interview 1-3-90). One implication is that there was a pressure to conform to management's authority.

The general manager in Kokuda commented that sometimes there was a more relaxed atmosphere during overtime working and productivity was higher than during the day. The possible explanation for this is that there was less pressure on the workers (Interview 28-6-90e).

Overtime provides the most flexible of all forms of extra work hours, so can be increased and reduced according to how far production for the warehouse actually matches demand. Therefore, in all cases overtime was popular with management. Nevertheless, there was a dependency on workers to volunteer, even if this 'choice' by workers was 'encouraged'.

Shift working for regular workers

The characteristics of shift working were stability and restricted application (Interview 1-3-90). Shifts were applied to only about five percent of the workforce at Koorki, for example (Interview 21-2-90a), and this would be proportionately similar in the others cases, although a little higher in Kokuda. Except in Kokuda, shifts were not used to achieve seasonal adjustments, or short term flexibility. For example, auto insertion had shifts because the machines used were expensive so needed to be kept running as much as possible to gain returns on capital investment. At the same time few new machines were bought because of the expense, so that three shifts were required in order to supply just one or one and a half shifts for the rest of the factory. In addition, not having all the non-auto insertion lines running continuously allowed time for maintenance of machines and tracks to be carried out. For this reason, maintenance workers were also required to work a shift system in all the plants. As was noted in an earlier chapter, the day shift dealt with line breakdowns, and the night shift carried out planned or major maintenance jobs.

In all the plants there was some shift working for auto insertion. This was either a four shift each day, as in Koorki, Kohashi and Kokuda (Interviews 21-2-90a, 15-8-90d and 28-6-90b), or a continental system, as in Koburg (Interview 17-7-90b). In addition, Kokuda had shift working for sub-assembly of the deflection yoke, which required expensive specialised machinery, and therefore the lines were run for two shifts: day and late shifts, a two shift pattern.

Referring to the existence of stocks explained in Chapter Six, it can be seen that if

some areas were producing when others were not there must necessarily be stock piles of work-in-progress. It may be possible to balance the production process so that there was a constant throughput, with all lines working the same hours by using different numbers of machines and labour in the different sections. However, management did not organise production this way because it was not efficient to do so¹.

Because of legislation relating to women working at night, there were few women working in areas where there were shifts. In Koburg there were examples but the women involved worked on permanent day shifts, as was noted in the previous chapter. This, however, was not a concession to women, as in addition to shift working there were extra people employed in these machine areas during the day. These issues and how they related to pay will be explored further in Chapter 10.

Peripheral workers

The use of contract workers for short periods of time, up to six months, can be done either by spreading them among the existing workforce, or to use them as an additional shift. Three of the plants used the latter method, employing mainly married

¹ The same logic of efficiency prevails at the largest television production plant in the world, in Japan, where there were shifts for auto insertion and maintenance supplying a day shift for the rest of the plant (Field research 1987-9). This shows that there is no real argument for an economies of scale in smoothing the production lines to have shift working throughout a plant.

mothers on what was called the twilight shift or 'baby' shift², from 6.00pm to 10.00pm, Koorki being the exception.

Koburg employed an evening shift of 100 contract workers, plus 50 to 60 on day working contracts. Over a period of a few months it was intended that out of 800 workers 200 would be on six month contracts. Some contracts were renewed immediately (Interview 6-12-89a), the idea was to retain a stable group of peripheral workers 'on the books' to cope with expansion and contraction (Interview 7-12-89b).

Koorki's Personnel Director claimed there were no contract or part time workers, except for a contract caterer and for new building projects (Interview 13-11-89). He claimed that Koorki did not use such flexible employment practices in television assembly but, instead, relied on labour turnover. In the slack season leavers were not replaced and in the busy season more were employed. This seems a very unsophisticated method of coping with the seasons, but it was made possible because there was continuous expansion. One year's busy season turned into the next year's slack season.

At Kokuda, management operated a four day a week twilight shift for pcb assembly with 40 to 50 workers at the start of the year. By the end of the year the numbers grew to 100 or 150 casual workers. Many of the workers were ex-full time employees who had left to have children and who would return full time when the family grew

² So called, because most of the workers on this shift were young women with children, who went to work after their partners arrived home to look after the children.

up. Managers in Kokuda said they also used this labour turnover to achieve flexibility in employment numbers (Interview 1-3-90a), reflecting to a lesser extent the same phenomenon as in Koorki.

At Kohashi, management had a policy that 'good' (female) workers tended to get recalled as contract workers when they leave to have families. New contract workers got one week of training before they were assigned work, whilst returning workers get a brief refresher. The idea was to have about 850 permanent staff with a contract labour force that varies. At the time of the interviews there were about 210 contract workers used in busy times, and this number was built up slowly each month to the busiest months of the year, October to November (Interview 27-11-90).

Koburg and Kohashi did not rely on a form of flexibility from labour turnover. This reflected an entirely different labour market situation from that facing Koorki and Kokuda. Both Koburg (Interview 6-12-89) and Kohashi (Interview 27-11-89) although increasing in size, had a recent history of drastic contraction. It may be said that there was a certain synergistic effect of expansion, which these later two plants had yet to benefit from, in terms of flexibility in core worker numbers. Those plants using these temporary workers drew on the external labour pool for recruitment. There was an incentive for the worker to be a good contractor in order that they may be picked to replace natural wastage (those who resigned or retired from the core), and for plant expansion. This process contradicts Piore and Sabel's assertion that there are barriers to transfers between the core and periphery (1984).

A major consideration for the success in employing such a core - periphery strategy is the shape of the local labour market. In the case of the twilight or evening shift the main source of supply was young women with children. More crucially there was an incentive to get workers who would be prepared to work for periods of half a year, and less. Kohashi was able to use some farm workers, with almost half the contractors being male. Koburg had attracted some contractors who were encouraged to move from another part of the country, when another factory was closed. These contractors moved with their machines and were contracted to teach the locals (Interview 21-2-90c). Nevertheless, this was a precarious policy since if a competitive employer moved into the area and offered similar work on a full time basis, then the company might lose these contractors. This might happen with Kohashi as a German company planned a move into the same valley (Interview 15-8-90d).

The crucial factor which permits this form of seasonal and part time labour recruitment to occur was the gender composition of the labour market. Companies relied on two aspects of women's employment. First, women were relegated to a reserve army of labour whereby their wages were considered supplementary to that of their male partners, allowing them to take jobs which were low paid and non-regular, and for which men would rarely apply. Second, the case study employers took advantage of a typical life cycle of women within the UK, so that they initially employed young women, retained these women as part timers when they had children, and then re-employ them full-time when the children gained independence. For the employer, this 'system' allowed retention of skills, provided flexibility (they were not required to employ or re-employ these women) at each stage and keeps costs

associated with long service down because there was not 'continuity' of employment. There might be little wonder that these firms showed little interest in creche facilities for their employees! The most disturbing aspect of all this was that, as will be shown in Chapter Ten, many of the women felt grateful to their employer for 'keeping them on' and 'taking them back' after child rearing. Kohashi provides an exception in that several of these peripheral workers were men. The reason given by people in the plant is that the high unemployment in the valley was forcing men to take any job around, and at the same time they hoped this was a 'foot in the door' for a regular job when such vacancies arose (Field notes 15-8-90).

FUNCTIONAL FLEXIBILITY

Sayer (1986) defined flexibility as filling in the porosity of the working day. By this he meant numerical flexibility, although changing work content itself is another form of flexibility. In reality functional flexibility is more complicated and interwoven than either Piore and Sabel (1984) or Atkinson (1985) indicate (Elger and Fairbrother, 1992). Nor is it a simple utopia for management, as this section will show, through identifying two aspects of this form of flexibility: job rotation and expansion.

Job rotation

Job descriptions detail what a job is, what its purpose is, what training/ skills are needed to do it, and what responsibility is involved. Job specifications describe the type of person best suited to undertake the job and are used for recruitment. In all the cases vague or broad job descriptions were utilised, at least initially. As the Personnel

Director in Koburg put it "inherent within that there is a grey level of flexibility" (Interview 24-10-89). Not only that but under these arrangements workers would have little to cling onto in the pursuit of job protection. As the Japanese manager in Koorki put it "there is no job demarcation" (Interview 16-8-90f). In fact, on the shopfloor there were A and B grades in Koorki, four grades in Koburg and five grades in Kokuda. Kohashi was an exception as it still had detailed job descriptions for the shopfloor but their training officer complained that for white collar workers (Interview 15-8-90e):

We don't have rigid job descriptions but it is difficult for progressing people against formal criteria. What are the criteria based on?.

A lack in formal structures made it difficult for Personnel to match people to jobs and to formalise promotion. Assessment of achievement had in fact moved towards line managers and supervisors, who awarded pay and promotion based on a range of informal criteria. However, there was a difference between gaining these opportunities for flexibility from labour and actually being able to implement them on the shopfloor.

Kokuda was the only company to claim that in one of its departments there was organised job rotation (Interview 27-11-89). All the others said that any movement was on an ad hoc basis determined by management within departments, or between departments. Dealing first with movement between departments all managers agreed that it was generally unpopular with workers because they formed social bonds with their co-workers. The reason for movement between sections was to: (a) get the correct mix of skills for different models of television set or, (b) to prioritise lines

when, for example, there was a flu virus which caused mass absentee rates.

However, movement between departments on the shopfloor was not done for training or enhancing the skill of workers; rather it was done to cope with major changes. To this extent, it was something to be avoided if possible, not encouraged. Management at Kokuda was thinking of trying to introduce more planned movement (Interview 1-3-90a) but nothing had been decided at the time of this research. There was one major exception to the rule and that was when a section was to be closed, such as a sub-assembly. Then, rather than make people redundant, retraining was given, but again this is quite a usual practice. Otherwise, if a person was moved it would only be for a short time and was often referred to as 'lending-out'. The supervisor generally would try to lend-out the least productive or socially awkward workers or, if not, they would try to reclaim the lent-out worker as quickly as possible to maintain the performance of their work group.

Labour imposes a restriction on capital because the socialisation process, even within the factory, constrains managers from moving workers all around the place in the UK. On the other hand, it gives a power to management to make the worker responsible to the group. Even here it can backfire, if the group decides it is not in its best interests to be highly productive for capital, as will be discussed in the next section.

Movement of workers between different jobs in the same section is much easier than moving workers between sections to do the same job. Within some sections, there

were float operators. They usually provided the flexibility within the section rather than having people move from other sections, as will be discussed below. The only time there was movement between sections tended to be when the supervisor wished to train up a new 'float'. The 'float' could do any job on the section and might sit in for an operator who needed to leave the line for a short time, or fill in for an absentee at the start of the day until a replacement worker could be taken from another section. Kokuda had a different system, where the middle manager control a group of 'floats' (Interview 28-6-90b). This reduced the need for movement of operators further, but it also required the supervisor to cover for short absences from the line. Koburg also had an additional seven percent of workers over tasks to cover for absence. This was the only company to admit to doing this, perhaps implying slacker labour utilisation than in the other plants (Interview 6-12-89c).

Concerning transfer between lines, the manual insert 'float' said (Interview 16-8-90b):

Flexibility doesn't come up often - only if there is a big problem. Soldering or wrong value problem³ get one-two people who are spare (such as me) to help another line, but we are usually too busy on our own line to go. This is requested through supervisors.

As one of the 'floats', she was flexible in that she could go anywhere on the line under her supervisor. However, movement between lines, was not common practice, except if a crisis hit. Management would never ask her to cover for an absent worker on another line. In overtime working it was different. She had worked in auto insertion, and the main lines on overtime before (Interview 16-8-90b).

³ This was an insert error, usually where the component was inserted back to front, or in the wrong place.

The usual comment by managers was that operators in certain sections, notably hand insertion, stayed for years at a time, sometimes all their time, on the same job at which they originally started. Kokuda's general manager admitted this despite claiming that 50 percent of its female operators had competence in any job on any line (Interview 28-6-90e).

Job rotation was not a common feature of working within the plants for most workers. Specific examples of the complexities of managing this form of flexibility will be shown later in this chapter, but it needs to be recognised that it is costly to train workers for change, and often workers will resist it. Instead of a general strategy for rotation, management created a specific job category of 'floats' for the manual insertion lines to cover missing workers, and so avoid the need for other workers to move jobs. Where other employees were moved it was on an ad hoc basis, and not without problems.

Job enlargement

Job enlargement is a process whereby the number of tasks an employee does is increased, thus, it can be a form of job intensification. This increase may be in terms of extra similar tasks or qualitatively different ones. There are problems in researching this area without looking through detailed job descriptions and comparing those to actual activities undertaken. As the cases did not always maintain such documents, in this research, activities undertaken for different job classifications were used and compared between cases.

In its broadest sense job expansion can be seen in the intriguing comment made by a maintenance technician in Koorki where management had tried to introduce a wide definition of tasks (Interview 17-8-90):

At one time we were required to clean the toilets but that has been taken out ... that was really flexible!

What is more significant is that there was an almost immediate climb down by management in the face of employee resistance, and to some degree even ridicule. Nevertheless, the fact that Koorki's management tried to introduce such *flexibility* in the first place might be construed as Japanisation, and indeed it is likely the order came from Japanese managers. However, it did not succeed, through labour and supervisory resistance.

At Koburg, management believed that workers' jobs had expanded to include more issues to do with quality production as part of the overall response to the television consumer market. However, interviewees did not seem concerned with such issues. In the Tuner assembly area of the factory interviewees said that output was all that mattered, not quality (Interview 17-7-90a), implying a disregard for job expansion on the part of management. In fact, apart from a few job categories such as 'floats' and technicians, there was little expansion in either Koburg or Koorki except in terms of trying to get employees to think about issues of quality or safety.

Taking the example of the 'float', their ability to undertake anyone's job on their section of the line at a moment's notice has been explained above. But in fact this job category was designed specifically to help the supervisor by allowing workers to

remain quite stationary, except for infrequent 'career' type moves. The 'float's' job was, therefore designed to avoid multi-tasking of line workers. Further, it was only possible for these 'floats' to be so versatile by continuously maintaining line jobs which were, in essence, single repetitive tasks.

Japanisation and theories of flexibility have seen employee demarcation issues as a common difficulty within British industry and promote the view that the new forms of employment practices evidenced under their theoretical stances eliminate such demarcations on the shopfloor. Looking at maintenance workers in Koorki a technician said (Interview 17-8-90):

There is half and half of electrical and mechanical. They can do both sides. An electrician will not do machining like I did but chains, etc, they can do. We do look at what need done, although we don't draw a line between them. Mine never get called on the line for insertion or the like. Perhaps they may get called to move the line when the motor breaks ... We do get people with a demarcation attitude, especially among the mechanical. Mechanical because they are often afraid of the electronics. We get a big problem with saying to people can you do that job and they so no it is electrical without actually going out and looking at it first.

Whereas mechanical technicians tended to stick to mechanical jobs, electrical workers felt able to take on some mechanical work. However, there were no job descriptions which defined these practices, rather they had grown over time as a custom and practice on the lines, and to some extent reflected demarcation rivalries between the two types of technician such that the electricians felt superior to mechanical men.

There was no sign of a push for job expansion, except in terms of quality. It may be safe to say that in the days when the Japanese were not present in the UK, quality

control was not a concern of the operator, except in as far as it was a matter of personal pride. Maybe such pride could be identified on the main lines, but in manual insertion, where a quality fault probably would not even be discovered, and the work, was so devoid of intrinsic pleasure, such pride would be kept for things other than work (Interview 16-8-90b).

Summary

Variations in seasonal demand in the case plants were dealt with by extending the working day and employing part-time workers. Contingencies, such as repairing poor quality parts, making up lost production and so on were catered for by overtime, while shift working coped with production bottlenecks and machine maintenance. Functional flexibility, on the other hand, was more limited, so that, although the unions had agreed to complete flexibility, it was neither extensively used, nor a new development within the plants. The next section focuses on these points looking at specific examples.

CASE STUDIES IN FLEXIBILITY

To further illustrate the dimensions of flexibility in work organisation representative jobs in two plants will be examined in some depth. In the following pages therefore the complexities of these types of initiatives and practices undertaken by management will be subjected to a considered assessment, through the perspective of workers, as expressed in interviews.

Auto insertion minders and loaders in Koburg

Auto insertion in Koburg had a two shift system, with an extra two people working a third shift from 10.00pm to 6.00am. This was a method by which management could extend the use of capital equipment. It was not really a form of flexibility, except in that it was an issue in work reorganisation for activities which had not used shifts previously. Some auto insertion workers returned to Koburg after leaving the firm, because the introduction of shifts offered increased earnings, although as will be seen in the rest of the section there was a down side to shift working (Interview 17-7-90b).

Koburg's management had introduced the system of varying the hours of the working week between the company's busy season and the slack one, under an annualized hours contract arrangement, to reduce the overtime worked in the busy season, as has been explained. The busy season had allowed workers to earn extra money through working the overtime and to use this for Christmas (Interview 16-12-89c). However, in auto insertion the annualized hours system had backfired on management because the same amount of overtime was being worked on top of the longer hours. As one interviewee said "this is the most overtime I've done in the 24 years" (Interview 17-7-90b). There was a high amount of overtime, especially when there were machine problems during the shift. "You can work weekends, nights - there's a lot" (Interview 17-7-90b). Overtime was worked on a purely voluntary basis and plenty of people wanted to do it. The interviewees said that they wanted overtime because of the cost of living in the area. Overtime was always offered first to the first shift, with leftovers going to the second shift (Interview 17-7-90b):

Most of the time you have your own machine which you run from day to day. If your machine breaks down you can be moved to another one.

This explanation from one of the men shows again, that the job was decided by the machine. He moved only when the machine allowed him to do so. The supervisor gave the order where to go but would leave him there if it was not for the machine. Another example of this arose when auto insertion machines were moved to Koburg from another plant. The minders at the other plant were asked if they wanted to move with the machines. The company was saying 'you move with your machine or you lose your job'. But there was a context to this system which denies the technological determinism implied in the quote. The relationship was only there because management had organised work in that particular way. Second, the minder had the choice to stop being a minder, it was just that as a minder he was caught in a certain situation which management had decided. One reason for this was that (Interview 17-7-90b):

They try to keep each person on their own machine because the operator knows the sound of the machine and so on.

Management finds that by keeping a minder on the one machine they could keep it running more efficiently than would have been the case with moving people around constantly. Thus, productivity was not enhanced by flexibility in the job of machine minding, or at least, that was how management in Koburg saw it. This is a rational approach because flexibility in using labour in the auto insertion sort of environment did not make sense when quality was only marginally effected by the worker, yet output was largely determined by the machine. By keeping the worker at one machine

management was able to minimise the "wasted" output hours because of the minders tacit skill of recognising when faults were about to occur. Also, when miss-inserts did occur, because the minder became familiar with the types of boards being produced, they could manually insert quicker than if they were new to the machine and the types of boards it handled (Interview 17-7-90b).

One person (a woman) was applying to move from A to grade B status and achieve a pay increase. To do this she had to be able to work more than one machine and to have minimum continuous service of two years. This meant that she was taken off her machine and moved around the section to learn how to operate other machines. So, she had no machine of her own. However, this particular woman was not able to apply for training up to B grade status until someone was recruited for her machine. The other minders also wanted to apply for this promotion because of the pay, though in their eyes it was not much of an increase. The woman said "Why there is this grading scheme, I don't know" (Interview 17-7-90b). There was no objection to the flexibility grading, which was the only purpose of the A and B grading, yet at the same time, workers saw it as unnecessary. As far as they could see, there was no need to change the working arrangements. It is uncertain what would happen if a large number of workers were granted B grade status and could work on many machines. It is unclear whether the B graders would return to their own machines but be able to move more readily between machines when a breakdown occurred, whether there would be regular job rotation or whether the arrangement was just an exercise in trying to de-couple employees from a particular job identification. More generally, the grading practice may have been a disguised way to encourage people to stay at

least two years in the plant (Interview 17-7-90b).

Change within the job was something which was fairly constant for television auto insertion minders, with typical production batches numbering only around 200 boards. Consequently, there could be one or two set-up changes per shift per person/machine. Set-up changes were done by the minder and entailed checking of parts, except for parts which were supplied by a designated parts feeder. In the rare cases where there was a model change, which could occur about every 10 months, the technicians would be called in to help deal with the problems that occurred. At the time of the interviews a major change was in progress for some of the machines to accommodate a new board for a new model. The auto insertion interviewees were critical of the technicians who they said were always re-ordering the priority of problems in that area, over their own (Interview 17-7-90b).

One auto inserter commented on doing repairs on their own machines (Interview 17-7-90b):

We do learn to correct some things on our own machines. The longer you operate it the more you learn about it. We have asked to learn how to do more repairs but there don't seem to be the facilities available to teach us. Some came down from Enfield with the machines to teach us how to operate them. They were Setter-operators, so could do basic maintenance. Some of us have asked to train for this. They get paid more but that's by-the-bye. There are little jobs we could do to keep the machines running instead of waiting an hour for a technician to come and do it.

Koburg's management in another plant, had experience of training minders to set their own machines, that was to do running repairs and adjustments. Thus far, the decision

had been, not to introduce this process into the case study plant. Instead, there was the plant-wide grading (A and B) system. Yet many workers considered that learning basic repair skills was more important than training others to do their jobs, which was what job rotation would require (Interview 17-7-90b). In general terms, there was a preference for job expansion over job rotation.

Within the job there had been some task expansion from workers' main jobs (as described above) to include cleaning the machine and its surrounding area, ready for the next shift. This expansion, which was quite limited, was attributed to the strategies of the new European employer who had taken over the plant (Interview 17-7-90b).

Auto insertion minders and loaders in Koorki

The shift system in Koorki was one stage further developed than that in Koburg as it constituted a continental system of four shifts with a rotating pattern of times every two days. One of the interviewees who had worked to this system since the age of 18, knew of no other system. Another said that most people preferred this system because it gave more time off, but went on to explain how he felt sleepy around midnight and could not settle into doubling back (i.e. where one shift starts only a few hours after another ends, allowing only about four hours sleep). Yet he regarded it as the best way to organise to get the most time off. Interviewees thought that the health and safety problems which might arise from this sleepiness were up to the individual and that, simply stated, some people could, and others could not, cope with shifts. It was not seen as a company problem (Interview 16-8-90c).

Koorki's management asked for lots of overtime which was always scheduled for day time, and done by those not working days already. One of the interviewees who did an overtime shift on the day of the interview, was staying on to do his normal shift. However, since the continental system had been introduced this was the first time he had done this. One other interviewee had done no overtime under this system. They both said it was more difficult to do overtime under the new shift pattern. In the old system one could regularly do about 40 hours overtime a month (Interview 16-8-90c).

The minders never seemed to leave their machines, either to go to another machine in auto insertion and certainly never to go to another part of the factory (Field notes 21/22-2-90 and 16/17-8-90). Being in charge of four machines meant that it was unlikely that all of those machines were down (broken and waiting for repair), so that there was at least one machine to work on all the time (presumably, the worker would be moved if they were all down). This is really no different to the situation in Koburg, but because of the organisation of work, that was four machines⁴ instead of one, movement was less likely. Movement to another area of the factory, as in Koburg is unimaginable. The reason is not a lack of flexibility, it has to do with both capital investment and skill needs. The machines were expensive and needed to be run as continuously as possible; further, they were increasing in numbers proportionate to other elements of the production process, with the drive for automation. Finally, the skills in this area were different from those in other areas of the factory, and were

⁴ As will be explained in a later paragraph, although it appeared that Koorki auto insertion minders worked four times as hard, with four instead of one machine to mind, this was not the case, partly because each of the four machines inserted fewer parts than in Koburg.

enough to mean that there would need to be a period of training to move people around the factory - to swap workers over between auto insertion and the rest of the factory. When the company wanted high quality, and high output, such training is an unnecessary cost. If the plant was to contract in size to the point where there would be fewer auto insertion minders needed maybe it would be a different situation. But it was not, and neither was it likely to be in the near future and neither was there any point in asking management, or worker, 'what would happen if ...?' Koorki had no experience of it anywhere in the world (Interview 16-8-90c)⁵.

Program loaders were in a different situation in that they could move without being authorised to do so, or told to go to other parts of the auto insertion department in order to help out with problems on other lines. It seems then that this included work not related to program inserting and includes work similar to that which a minder did (Interview 16-8-90c). Perhaps this was because, as part of the knowledge for the job of program loader, it was important to know the operational tasks of minding and loading (parts) auto insertion machines. Moreover, some of the problems on the machines could be caused by mistakes made by the programmer.

Some flexibility was built into the job of the loaders who could move off their usual line to help with minding work on other lines. The minders, on the other hand, stayed on their own line all the time. Compared with Koburg it has already been shown that (s)he had a greater job content, minding four machines. On the other hand, Koburg

⁵ In 1993 the recession in Japan has just started to result in job losses in the largest television plant, following a 60% drop in its profits.

workers had to load parts into their auto insert machines and work with circuit diagrams to help check their own quality. It appears that there was very little concern with machine problems because, when such a problem did occur, a technician was called (Interview 16-8-90c).

The experience of shift work in Koorki and its relation to the rest of the factory can be seen in the following statement from a maintenance technician (Interview 17-8-90):

There is not so much overtime now in the shift areas - only weekends. This gives us more space to work. We have got big problems when they're making them before the shift starts. They run weekends, in the evening as well. They tell us ten minutes before. We have a major repair on that line - we bought the materials and go there but the line is running - no one told us. There is a lack of communication between production and engineering.

The introduction of shifts reduced overtime availability, and an consequent loss of earnings potential for the technicians. Moreover, this interview suggested that there was poor communication between the lines and support functions in Koorki. This cost the company money because the technicians were paid to do overtime, but found that the lines were running and maintenance work was not possible. That was why weekend overtime was most common - the chance of the lines running, except for reworking, was low. Thus, management could avoid communication costs by avoiding communications! The inference is that a restriction of flexibility for one group allowed flexibility for another group. In order to allow the lines to run overtime, as and when needed, technicians had to restrict the times they could work, so being less flexible. There is also a much more intriguing side arising from the statement. If technicians only got 10 minutes warning of overtime, how long did the line workers

get? Ten minutes as well?

In general, there was much more concern for flexibility at Koburg than at Koorki, Japanisation was reversed. There, functional flexibility was always seen as the antithesis of productivity for auto inserters. The reasons behind this avoidance of functional flexibility are more clearly demonstrated in the following two cases.

Manual inserters at Koburg

In manual insertion, the annualized hours arrangement meant that the hours of work were from 7.15am to 5.15pm Monday to Thursday and 7.15am to 1.15pm on Fridays during the busy season, July to December. In the less busy (not slack, at least in 1990) season hours were from 8.15am to 2.00pm with Friday off. In this area of the plant the scheme did seem to have cut down on overtime, in the busy season. The flexibility dimension always remained in that overtime could be added to the schedule, just as it was in the auto insertion department (Interview 17-7-90a).

In Koburg, manual inserters were moved between lines to work on other boards for up to an hour, or for a day if there was need to balance lines and prioritise certain boards. One of the problems of this borrowing of people was illustrated by the interviewee who pointed out that (Interview 17-7-90a):

They do move us between boards if there is a shortage somewhere else and spare here. At the moment we have two girls from satellite inserting in the place of one of ours who is absent and they still cannot keep up.

There was a difficulty in moving workers between boards because they were

unfamiliar with the new one and therefore it took time to train up to line speed. However, it was easier to move people between lines doing different boards, but largely the same task, than to move people between jobs on the same line. Thus, the latter was not done, but rather left to the float workers. On top of this, the supervisor was loath to let workers move who were 'good' at their job and cooperative with management. This tended to mean that 'poorer' workers were loaned to work on another line, or transferred altogether (Interview 17-7-90a).

Flexibility, or change within given jobs, was consciously restricted. One interviewee explained that (Interview 17-7-90a):

It stays the same all the time. If you started changing things you would loose your speed. It took me five days to get up to line speed and that was fast [the other interviewees indicated agreement]. Some can take three weeks. The boards are very similar, only a few components different. There are twelve girls so if one bit was different for each one the board would look very different.

Even when a board was to be changed, or there was a new model to be produced, the changes could be spread among the manual inserters so that each task changed just a little. Nevertheless, even a small change takes time to readjust to, so where management could, it minimised change (Interview 17-7-90a).

Koorki was organised under the same principles, with the same difficulties and same perceived lack of necessity in moving workers around the plant. In fact, without the A and B grades and the job movements associated with them, Koorki demonstrated even less interest in flexible practices and attitudes among its workforce than in Koburg.

Maintenance Technicians at Koburg

For the previous two years in Koburg the maintenance technicians had run a three shift system. This covered up to 10.00pm on the first two shifts and then through the night on planned maintenance and emergency breakdowns which could not be tackled during working hours. The interviewees were technicians for four solder bars (manual insertion lines) and two main lines, including a lift system for the soak (Interview 17-7-90c):

We get some opportunity for overtime but only when it suits them - they won't consider if you need the overtime money or not. Seven years ago, there was as much overtime as you individually wanted to work. You decided how much, but now they select from us who they want. Its got tighter now.

This quote indicates two different things: the introduction of the shift system had reduced overtime and second, "them" (Interview 17-7-90c), management, selected workers according to skill and, perhaps, attitude requirements. First, management introduced a shift system to allow planned maintenance and also to reduce the high amounts of overtime work being done. So previously when a fault came up a technician would attract overtime to repair a machine, but planned maintenance was introduced and a different shift did the repair in normal hours, as has already been discussed. The result was that technicians had less time discretion and lower earnings because their decision-making control had been removed. Instead of the worker controlling his work, management had removed it from him in order to control costs. Second, workers recognise that they had lost a degree of autonomy and there had arisen an implicit divergence of interests between management and worker. Managers wanted to have repairs completed as cheaply as possible and when they wanted them

done. Technicians wanted to work overtime, thus do repairs. No matter how 'loyal' and 'conscientious' a worker is, if their interests, diverge from those of management as the agent of capital, as they must, there will be a conflict in actions. One must win and the other must loose. Management giving overtime when they wanted, and workers recognised that this was discretionary power on the side of management.

A technician did not move between jobs outside technical work because this would be a waste of their specialist skills. There was one exception however, if a conveyor belt failed, then a technician might be required to push the chain manually in order to keep the line running temporarily (Interview 17-7-90c).

Koburg had a maintenance technician for each line, rather than a pool, as in all the other companies. This suggests that their technicians might become quite specialised on their line. One interviewee complained that (Interview 17-7-90c):

We stay on the same lines all the time. Personally, I don't think they swap them around as much as they should do. They keep us on the same line but if someone is off and you have to cover their line you are not efficient on it.

This technician wanted more flexibility, to be moved between lines, so that he could maintain knowledge of different machines, and keep his skill up, which he would be able to do in a labour pool structure. For the technicians it was important to maintain the skills they gained because this effects the pay they could get in the external labour market, which was easy for them to enter by comparison with other workers. In general technicians were not opposed to flexibility for, like the professionals they perceived themselves to be, it enhances their CVs.

Thus it is not enough to say that Koburg had less flexibility than the Japanese cases because we must ask: flexibility for who? In Koburg flexibility was for the management. In Koorki flexibility patterns more closely resemble the custom and practice of technicians which had value in the external labour market. In this sense, it can be argued, that the Japanese company had less impact on flexible working arrangements of skilled staff than was the case at Koburg.

SUMMARY OF FINDINGS

In the three Japanese firms and even the European plant there were union agreements for complete flexibility. Nevertheless, flexibility agreements mean nothing in time if they are not acted upon because of the impact of custom and practice to restrict the room for management to introduce change without negotiation. The misconception in consumer electronics is that workers were ever inflexible. Line balancing and matching daily output has always been a feature of consumer electronics, which has meant a constant moving of workers around the factory (Taylor, Elger and Fairbrother, 1991).

Flexibility within the cases consisted of widespread and long standing use of numerical flexibility, which if anything, looking at overtime for example, was declining. Moreover, changes in methods of gaining flexibility had been tried more in Koburg than in the Japanese cases, though with limited success. Functional flexibility on the other hand did not exist in the comprehensive forms purported by writers such as Bassett (1986;94-9), Marsden and Thomson (1990), Oliver and

Wilkinson (1989) and Sayer (1986). The reason for the conflicting evidence is that it is dangerous to rely on written agreements with unions and statements by managements.

Flexibility is a long standing, but not unproblematic, feature of television production. Television assembly plants, have been organised in such a way that work can be arranged so as to allow the employment of temporary workers at certain times of the year in response to consumer market demand. With increasing automation of production, such as the development and use of auto insertion machines, flexibility has actually declined historically. Nevertheless, with comparatively low capital investment, compared with, for example, automobile assembly, there has never been a necessity to run television assembly plants at full productive capacity. Instead, these plants had always enabled seasonal variations in production, so long as a plentiful supply of vulnerable young women could be drawn on within the local labour market.

Further, the degree to which task demarcations on the shopfloor existed, depended upon the informal context of social relations among workers, and between workers and their supervisors. So that, the degree to which managers at Koorki and Koburg tried to formalise flexible work arrangements, they were in fact drawing upon those pre-existing informal arrangements. Yet the very process of formalisation might reduce flexibilities born out of the social relations of 'getting the job done', as will be explored in the next Chapter.

SECTION III

EXPERIENCES AND PERCEPTIONS

This final section explores how workers viewed their working lives - their jobs, employers and union. Moreover, the three chapters discuss how workers established controls on those conditions in the form of resistance, competition and escapism. The focus of the chapters is to evaluate whether workers were happy, motivated and 'enriched' by their employment, especially if the employer was Japanese. For this reason, and for reasons of research access, the section looks primarily, though not exclusively, at Koburg and Koorki. A motivation for this analysis was that the literature often argued or implied that a worker was better off working for the Japanese than for a Western company. Moreover, it has been suggested that unions are irrelevant because workers are not union minded in Japanese subsidiaries either because of good treatment by employers or careful selection of recruits.

This section of the thesis provides evidence of considerable alienation and a counter culture which is not managerially controlled as implied by 'Japanisation' theories. This both helped workers endure their work and limited their resistance. Moreover, the role of unions in consumer electronics had little or nothing to do with Japanese investment but much to do with the nature of the industry. Within the section attention is given to the differences in consciousness which existed between men and women in the plants, although this is not developed sufficiently to provide a detailed

feminist analysis. However, such a focus would be inappropriate, because gendered relations within the plants are somewhat independent of the Japanisation debate. This is not to deny the centrality of gender within an analysis of the labour process of television assembly, but that this research is primarily concerned with whether there is change in relations between forms of capital ownership and the labour process. As such, this Section restricts analysis to exploring the relationship between capital ownership and views of the experience of the labour process, including but not restricting to gender considerations.

The first chapter in this section, "Worker attitudes to company and management", draws out issues of employee identification with their employers, and provides a critique of the processes and techniques of management through the eyes of workers.

CHAPTER NINE

WORKER ATTITUDES TO COMPANY AND MANAGEMENT

INTRODUCTION

This chapter describes what workers thought of the company for which they worked, the management of it and management initiated schemes aimed at compliance if not participation from workers. The meaning of 'Japanisation' will be discussed in terms of company, management, and participation. The expectation would be that Koorki would show more traits of Japanised consciousness than Koburg and that there should be, either major differences between the cases, or that Koburg was following Koorki as it adopted the Japanese model.

In a broader context, this chapter explores issues relating to employee participation and its place within motivation and control of workers. Many protagonists of Post Fordism claim that the new production relations also mean a new class accord, such that labour is satisfied with capitalist political economy. Sabel (1982;230) claims that an innovative firm depends on labour's cooperation, whereas Kenney and Florida (1988;122) argue that it was the triumph of labour in class struggles after the Second World War which allowed Japanese capital to introduce new forms of technology which in turn, boosted Japan into Post Fordist hegemony. Holloway (1987;150)

similarly implies that in Britain such cooperative, although subordinate, relations are being achieved first by breaking shop steward power, then by involving the workers directly. Holloway, at least, recognises that the relations are still inherently unequal. Similarly Palloix, in explaining how job enrichment cancels out Taylorism and Fordism, (1976;63) states:

Semi-autonomous groups are only an extension of the idea of job-enrichment, in which small work-teams are free to organise and plan their own work - free, it need hardly be said, only within the limits established by the general production quotas.

This Chapter will analyze the relevance of such claims to these case studies, and to this end is divided into three sections: attitudes to company, views of management and participation initiatives, all from the perspective of some employees in two of the case plants, Koburg and Koorki.

ATTITUDES TO COMPANY

According to sections of the literature, such as Dore (1973), Abo (1990) and Kikuno (1985;23), a Japanese company is paternalist to its permanent employees, providing lifetime employment, and a good working environment with a sociable atmosphere. Moreover, a Japanese firm might be expected to be integrated into the local community as more than only an employer paying wages. This section starts off by examining two aspects of supposed Japanese life time employment: job security and the employee's desire to stay with the one company. In later sub-sections interviewee perceptions of the following issues are dealt with: job security, employee's desire to stay with the company, factory environment, and the reputation of the company in the

community.

Job security

One side of supposed life time employment is whether workers perceive that such security of employment exists. If security is not offered workers are supposed to lack motivation (Dore;1973, Kendall;1984).

In Koorki interviewees did discuss employment security as a benefit of the company. This was seen as an important aspect of wishing to continue working there, although one saw that the security of employment came from continuous expansion of the plant and not from any promises of the management, a point confirmed by informal discussions with management (Interview 16-8-90b).

Interviewees in Koburg had mixed thoughts about their own job security. Some thought that the Burg takeover had improved security (Interview 17-7-90a) whilst others thought that without further productive improvements the plant might be closed altogether (Interview 17-7-90c). One tuner assembler thought Burg intended to stop making televisions at the plant (Interview 18-7-90). She turned out to be right¹.

In Koburg the growth in employment opportunities in the company was in contrast with the past, when many technical workers were made redundant (Interviews 6-12-89a and 17-07-90c). This would seem to demonstrate to workers the fragility of

¹ When a draft of this chapter in the summer of 1991, the author thought the interviewee was wrong to predict the demise of the plant. She was right.

the employment relationship and so led to distrust of management. It is true that there was little confidence in bosses (see later section), but only the technicians among all workers interviewed commented on the periods of redundancies which occurred in the late 1980s, especially with the closure of another Burg plant in the UK, as mentioned in Chapter Five (Interview 17-7-90c), in contrast to many conversations with managers about the period of decline.

The pattern of difference between Koorki and Koburg conforms to the 'Japanisation' model. However, job security only has significance to workers if the labour market is poor and if, without a job in a company, they might be unemployed or subject to insecure pay generally. In Koorki such insecure experience meant that one of the main advantages of the job was that there was high job security compared to working in the auto parts industry, where one interviewee had previously worked and been laid off more than once² (Interview 16-8-90a). In the locality of Koburg the labour market was relatively buoyant and a person could easily move between companies. Thus, security of employment may not have been important to Koburg workers.

Employee desire to stay in the company

The other side of life time employment is the desire of workers to stay all their working lives in the same company. The auto insertion workers in Koorki said that they did not want to leave the company before retirement and wanted promotion. However, even if promotions were not possible one operator said he would continue until he retired, being in his 30s at the time of interview (Interview 16-8-90c).

² Also refer to a later sub-section 'Ones own job compared to others'

The illustrative case of one female manual inserter shows the contrast between men and women. At the end of the day she saw the relation between working in Koorki and her life in the following terms (Interview 16-8-90b):

I will stay here until I marry and then I'll leave to have children and not come back.

Work did not fit into her long term thoughts of life, although she intended to stay until marriage. The job was fine, she gained recognition for her skill of being able to pick up the knowledge and concentration to do the different jobs on the line, ie to become a 'float', but her life horizon was seen as in the home (Interview 16-8-90b). The reason was not just within a context of subservience to "a woman's place in the home" but that work is itself alienating and having a family would allow her to escape the boredom of labouring. On the other hand she probably worked through economic necessity in the first place.

In Koburg the situation was similar except that there seemed to be more opportunities to move between companies. The only comment by interviewees was by a technician who said that people did not leave very often and those who did leave were quickly replaced so that work relations were quite stable (Interview 17-7-90b).

It might be assumed that workers would want to stay in the best companies. However, in reality, the sexual division of labour was far more important in determining how long the workers in the two case studies expected and wanted to stay in their respective employment. The men were far more likely to expect to stay; whereas women saw their jobs as filling-in until marriage, or as *supplementing* the

husband's income.

Factory environment

One indication of views held of the company can be found in attitudes towards physical working conditions. The television factories represented a new 'clean' type of environment, different from the old 'smoke-stack' industries and mines (company literature: Kokuda and Koorki).

Within Koorki the reaction of workers to the clean atmosphere was how much the factory floor was different from other plants in the locality. One worker, a woman, in comparing Koorki with previous employment said that (Interview 16-8-90a):

This factory is much cleaner - its not like a proper factory really.

This quote indicates just how unique the working environment of television assembly was compared to other industries in the locality.

In Koburg the issue was also the cleanliness in the plant, but the comparison was with 10 years earlier. There were a number of factories in the locality which had roughly equivalent working environments, being light industrial and chemical manufacturers. One woman, remembering the old days, said (Interview 17-7-90a):

They used to have a stone floor. On hot days they would spray your feet with a watering can.

This would not be possible in the late 1980s with legal regulations relating to working with electricity. At the time of research there were tiles on the floor and lighting

similar to the Japanese case plants (Field Notes 6/7-12-89). The improvements in conditions were seen as being instigated by the new owners, one of the benefits of the takeover (Interview 17-7-90a).

These perceived improvements existed because of the investment made in the plant by the new owners which also signified secure employment to workers (Interviews 17-7-90a and 18-7-90). However, having recognised that the new owners improved the physical environment from a dirty dark factory to one which was more pleasant, one interviewee thought that this improvement was accompanied by less desirable management practices. Other interviewees agreed, although they did not make the connection between the changes in the plant and management reorganisation directly (Interview 18-7-90).

The workers in the two cases saw that their working environment was clean although it is not clear that there was any thought that this was part of Japanisation in any way. Instead it was seen in terms of experiences of places and times where conditions were worse. Clearly, there did appear to be a set of practices towards the physical environment of work commonly used in Japan, which also appeared in the UK plant. Whether this was due to a conscious effort to transfer these practices from Japan on the part of local UK managers is not clear. An alternative reason might be that convergence occurs as particular types of technology become universal. This second explanation may be confirmed by the fact that such an improvement in working conditions did not occur in another Far Eastern branch plant, Tatung, operating in the UK where lower levels of technology were being used (Field notes 15-3-92).

Reputation of company in the community

When Nissan located a plant in North East England the local press and media were full of stories about its effect on the local economy and then about the lives of the Japanese in the area (an excellent account of this is provided in Crowther and Garrahan; 1988). The media image was almost totally positive and those who threw doubt on it were scorned or silenced. The reputation of these plants, with their longer histories of operations in the UK may show whether such accolades given to Nissan will be valid in the future.

Interviewees in Koorki generally thought that the plant had a good reputation in the local area. The area itself was defined as extending 24 miles up a valley from the plant and near another Japanese competitor (Interview 16-8-90c). However, the positive reception was not universal, for one informant commented (Interview 16-8-90d):

When I said to people I was coming here, they would say 'Ouch, nasty to work for'. [However] as long as you obey the rules and are on time, there is no trouble.

This was not an isolated feeling for there were similar stories from various Japanese plants in Britain previously studied by the author (Taylor;1986). The central point of the quote is that there were rumours on the outside of Koorki that workers there were sometimes mistreated. At the same time management authority was enacted through bureaucratic rules which allowed workers to avoid most trouble and even to play the system to the limit of the rules. In the final analysis the rules themselves are decided in the interests of company within the contested terrain of the labour process. What

employees may come to see as part of the job, remain for outsiders points of exploitation.

Koburg, on the other hand, was not seen to have a very high status in the community or to be a better company to work for than other companies in the locality. One interviewee said that "this company is rubbish" (Interview 18-7-90), whilst others were less forceful in their basically negative ratings. The company was not unique in the community, so for labour it was just a place of work to choose among several.

Koorki appears to fit the 'Japanisation' model with one or two exceptions and Koburg to be a more 'traditional' British company. However, the distinction between the cases may just be a feature of geographical location rather than a strategic style of management.

Conclusion

In general, attitudes of workers towards the company seem more positive in Koorki than in Koburg, although the basis of comparison is different. Koburg was based in a prosperous area of the country at least up until the time of the field research, whereas Koorki was in an area of declining traditional heavy industrial employment. In detail, there were contradictory orientations towards the company in both cases, as well as particular circumstances relating to sexual divisions of employment evident in both cases.

MANAGEMENT

Lewis (1989) argues that in a case study of a Japanese electronics company, the 'Us and Them' barriers were confronted by developing a competitive spirit against the 'outside' (product competitors), in which all employees and managers were on the same 'side' within the company, a form of unitarism. Symbols of uniform and open plan offices reinforced this. Such harmonisation symbols existed within the four television assembly cases. However, Wickens (1985;5-6) was critical of seeing this harmonisation, in Japan at least, as anything more than a myth. He had evidence of demarcation between workers and managers, such as qualitatively different canteens and insignia denoting status on uniforms. This section addresses whether workers really were persuaded by these circumstances that workers and managers had the same goals and all were 'us'.

The section first addresses general thoughts on the divisions between managers and workers by looking at how management is described; this is followed by a consideration of Japanese management style and autonomy. The section concludes with a look at how competent workers thought managers were being in their jobs.

Them and us

In both cases supervisors tended to be identified by workers as their 'boss', or by name, or more generally as individuals. Managers on the other hand were referred to in the collective, implying 'them', although the Japanese were regarded as a bit special in the case of Koorki, a point I will return to in the next sub-section.

The view which one particular Koorki technician had of the company was rather negative. Against this, however, when he was ill with cancer, he found the Personnel Department to be very caring. Notwithstanding, when he came back to the job he had to work much harder just to prove that he was fit enough to be able to get and retain his old job (Interview 17-8-90).

The only difference in views of technicians in Koburg from those of the Koorki technician, is that they saw their management as generally tight-fisted (Interview 17-7-90a). Moreover, they perceived a change in management styles from previously, when managers were approachable and friendly. One interviewee said that there was an atmosphere of mutual respect and a group feeling on the factory floor (Interview 18-7-90). Many of the managers were replaced with more unapproachable managers whom workers did not know personally. One woman indicated that (Interview 18-7-90):

They are distant during the day but flirt with the young girls at the bar in the evening. They ignore you unless you have a short skirt on.

Although workers never complained of such sexual politics in Koorki, there were managers who spoke of flirting with the pretty women on the lines (Field notes 21/2-2-90).

Supervisors were not counted among 'them' in either company, though this attitudes seemed stronger in Koburg. One Manual inserter in Koburg commented (Interview 17-7-90a):

My supervisor is terrific. She has covered when a girl has had enough. Once the supervisor took me and the other girls right through the line, showing them what they do.

Supervisors were seen as being on the side of workers, trying to get the best for them and protecting them against higher management. Such a compliment was not given to the 'float' workers, who were sometimes thought of as trying to be supervisors, even though they were a type of operator (Interview 17-7-90a).

At a general level in both cases workers had similar attitudes towards their managers, who were seen as explicitly not on the 'same side' as themselves. These attitudes were slightly more extenuated in Koburg. However, Japanese managers were differentiated from local managers, as the next sub-section explores.

Japanese management style

At Koorki the attitudes towards Japanese managers were based on actual experience, whereas few of Koburg's employees had contact with any Japanese. Thus, this sub-section explores much of the vision and reality of Japanese style management as it concerns workers directly.

Generally, Koorki workers had little direct contact with Japanese managers at the time of the interviews but, as one worker explained, when there was a problem with a machine they could get the Japanese manager's help (Interview 16-8-90c). Another interviewee thought of the company as being British because she had no contact with Japanese and very seldom saw them. She only got to see a Japanese if they were walking round the factory (Interview 16-8-90b).

Among auto insertion workers there was respect for the Japanese managers knowledge but they also saw the Japanese as 'devious', such as in "I think sometimes they know more English than they let on" (Interview 16-8-90c). Also, there was a view that the Japanese had a different way of controlling workers, as the following quote (Interview 16-8-90c) shows:

With the Japanese I think, if I get on with you they move us ... that is the way they think.

The Japanese managers were seen to be interested in work and attitudes to work. It is implied that they thought Japanese were not interested in having friends but only in work (Interview 16-8-90c), a racial stereotyping.

A technician interviewed was more negative in his assessment of the Japanese in the plant. He thought that "they (Japanese) are just in a position of power" (Interview 17-8-90) and had little to do with the day to day running of the factory. This is surprising for a technical department, where Japanese employees have often been seen as experts in the field (eg Schonberger;1987). Thus, the Japanese were not very visible but were seen as controlling everything from behind the UK managers.

The technician complained that (Interview 17-8-90):

A lot of people come here and can't actually believe what is going on.. the Japanese ideas, the way they think, the way they push us.

Two auto insertion workers thought Koorki was not a sociable place to work. Partly this was because people lived far apart. Partly because friends would be separated by

the Japanese in case they talked during work hours and so reduce productivity. Even so, no one seemed to care about this: "Its not a bad job" (Interview 16-8-90b).

In general the view of the Japanese managers was as quite manipulative, devious individuals with power in and dedication to the plant. This is not at all the picture of harmony or class accord indicated by writers such as Kenney and Florida (1988).

The common attitude toward the Japanese among manual inserters in Koburg was two fold: Japanese were workaholics and some practices that work in Japan did not work in Britain. The first idea was that (Interview 17-7-90a):

For a Japanese a job is everything. For me it is a means to an end.

The second focuses on management's attempts to introduce Quality Leadership Programme (QLP)³ which was seen as inappropriate in Britain but suitable for the US and Japan. The reason given for the difference was that workers in the US and Japan were involved and appreciated by managers, not as with Koburg or Britain (Interview 18-7-90).

Koburg had once undertaken work for JVC at which time some workers met Japanese managers or at least experienced Japanese management practices. One result of the JVC contract is shown in the following (Interview 17-7-90b):

³ This scheme will be discussed later in this chapter, under 'Initiatives on participation'.

We had piped music; then the Japanese came. They stopped it - thought it was bad. But when you do repetitive work all day it helps make time happy. Then some of us brought in radios. This was OK so long as they were not too loud. Then personal stereos were used. That was stopped for safety reasons now. At night, and so on, the odd person still uses them when the factory goes quiet. There are no objections to this.

The Japanese were seen as introducing stronger management into Koburg, although the other cases show that these particular actions were not general in Japanese companies. Behind the views expressed it can be seen that management experimentation with restructuring meant that there was a degree of uncertainty in what was permitted. Further the authority of management was undermined by ad hoc agreements between supervisors and their subordinates to allow exceptions, though this could satisfy both sides at the local level. Japanese managers were seen as equally meddling as their British counterparts.

As a counter to this negative attitude, the Japanese were seen as responsible for some good production practices. For example, when work was done for JVC the line stopped in front of each inserter and only restarted by pushing a button (Interview 18-7-90). The inserters liked this ability to control the line and regretted the Japanese leaving the plant after the takeover (Interview 18-7-90).

Worker autonomy

Autonomy or discretion has only limited potential on the line, although Goodrich (1975) showed that there is always room for some worker discretion in even the most repetitive work. In both case plants no worker in manual insertion jobs talked of

autonomy.

In auto insertion at Koorki there were set targets and procedures but little direct control. There, the case of technicians provides the most interesting example. Management was a resource for the technicians to use. If one boss did not know the answer to a problem the technician would consult further up the hierarchy at his own discretion. Nevertheless, time was controlled and technicians had to look busy, instead of relaxing between call-outs. The traditional view of the technician as a skilled trusted worker who organises *his own work and is diligent on call outs*, counted for little - one must first look busy and keep to the three breaks a day, just like the rest of the workers. Further, management tried to keep them continually busy with "no slacking" (Interview 17-8-90). Most technicians seemed to find this a threat to their status, as well as exhausting.

In Koburg the auto insertion workers had the general view that there was a high degree of autonomy from management, so long as they get on with the job (Interview 17-7-90b). The same thoughts existed among fault finders: a sense of autonomy, in that they controlled their own work patterns so long as rejects were detected and rectified, and, moreover, that the problem did not recur (Interview 17-7-90d).

From these anecdotes workers felt more autonomous in Koburg and happier about their 'freedom', than they did in Koorki. On the one hand, this tends to run counter to conventional views of harmonious Japanese management practices, and on the other, the Japanese did manage detail so as to intensify work. Japanese management

of detail involved the close control of workers' labour, as they must actually show management how well they were doing, rather than just 'getting on with the job'!

In the auto insertion area at Koorki shift changeovers were seen as involving unnecessary managerial control, as one worker explains (Interview 16-8-90c):

There is a problem with continuity between shifts, such as machine problems and so on. So we were given 10 minutes of overlap to tell the next people coming on what has happened etc. This takes two-four minutes to do, then we left. Now they have decided that we must stay the full 10 minutes. So we wait around for six minutes doing nothing.

Workers could not see why management insisted on 10 minutes if it only took three minutes to pass on messages. Perhaps it was a case of mistrust. Management might think that if the amount of time for passing on messages was flexible, workers would not do it properly in the hurry to leave. Whatever the reason, it implies a sense of mistrust on the part of management in their relations with workers in auto insertion (Interview 16-8-90c).

The only complaint which the production services technical worker in Koorki had was that management wanted to attribute every mistake to a particular person and he found that annoying. They had big meetings for something the interviewee could explain in three minutes - he thought the attention to detail in pinning the blame was petty (Interview 17-8-90d). Moreover, in order not to get blamed with mistakes, each department competed with each other to shift blame away from themselves: "this really gets my back up" (Interview 16-8-90d). However, in general the work was regarded as satisfactory and the company did "stick together - well sort of" (Interview

16-8-90d).

In Koburg the technicians' view of management was generally that they were quite irrelevant to the technicians' daily lives and work. One exception to this relates to the takeover by Burg of the UK company. The technicians had a very negative view concerning this, in contrast to workers in other parts of the plant, who, if passing judgement, were generally positive about the new owners. One technician said (Interview 17-7-90c):

There was a lot of influence of the Burg in the past but they have disappeared now. Perhaps they have an influence further up but we do not know. QLP is (an) important influence from the Burg. Burg managers' attitude saying that if QLP failed, we failed. They force people to go on the QLP programmes. They then only do the bare minimum - they are not motivated.

Burg was seen to meddle in the Koburg plant and to use threats rather than encouragement to get what it wanted. QLP was introduced with such threats, which resulted in workers jumping through the hoops that the Burg management put up but did not initiate change themselves. There was clearly a mistrust of the new owners and no interest in their QLP programme (Interview 17-7-90c).

Management competence

There has been a view of industrial management in Britain which highlights its incompetence, or at least unprofessionalism (Fox;1966, Sisson;1989). However the view held of Japanese management practices has been one of practical competence which earns respect, although not necessarily acclaim. This sub-section will look at how far these differences are replicated in the two case plants.

Three examples from Koorki show that there was at least some evidence that the process of management was beset by tensions and complexities such that workers were exposed to inconsistencies and inefficiencies in the production process.

One interviewee, a Technician, had been hassled by his bosses (Interview 17-8-90). His immediate boss knew nothing about pcbs, according to the interviewee (Interview 17-8-90). The problem was exacerbated because local Japanese and British managers could not settle major decisions concerning budgets between themselves, thereby creating an atmosphere of uncertainty. This uncertainty, and an increase in responsibility without an increase in pay, because of the bosses's lack of expertise in the area, was so upsetting that this worker wondered if he would stay in Koorki at all. At the same time, the interviewee felt that, if the problems were settled and organised, he would have had more independence because of his bosses's lack of knowledge in the area (Interview 17-8-90).

The second case concerns an alignment 'float', a woman who had gained promotion to a float worker, and who felt that she could do all the jobs on her section of the line (Interview 16-8-90a). At the time of the interview she also thought she did some supervisory work because the company had put a supervisor who had no knowledge of the alignment equipment (often referred to as jigs), in overall charge of the section. She regretted this, saying (Interview 16-8-90a):

I think it is wrong for an outsider to come into a line because they do not know what you're doing. They should of made me or the other float at the time up [to supervisor] and a new one [recruit a line worker] in from scratch to learn the way.

Lastly, as a team leader one interviewee was concerned about training. He thought there was little time to train and that many technicians lacked appropriate skills for the new types of high-tech machines in the factory. This was made worse by the high turnover, which meant that skills gained from experience were generally low (Interview 17-8-90). Clearly workers in Koorki had some opinions as to managerial competence, which were not always complimentary.

In Koburg there was generally a low respect for the managers and an opinion that managers did not care about the workers as individuals, as humans. For example, auto insertion could be very hot and stifling in a hot summer. At this time of the year, managers were seen as stingy, passing out "orange [that] was so diluted that it was just coloured water" (Interview 17-7-90b). Similarly, during the previous winter it got very cold and yet there has not been a proper regulation of temperature as part of the recent refurbishment of the factory (Interview 17-7-90b: Interview 18-7-90).

One person from the Tuner line said that QLP had introduced the idea that a worker could and should stop the line if a problem arose. In reality, if that happened, she said, the supervisor would be in trouble from higher management for loss of production. Behind this is a more general statement that managers did not really know what was going on, although they thought they did. In fact "they do not know nothing" (Interview 18-7-90). Another interviewee went on to explain how a problem developed on the line and graduates came down to fix it, but could not. Later a line 'float' found the problem, told the young graduate managers and it was fixed, but she was never acknowledged (Interview 18-7-90). The same sort of disregard was shown

in the treatment of one worker who had developed a pain in her wrist from using a machine which cut bits of metal from the pcbs (Interview 18-7-90). Because of the injury, the interviewee felt that none of the supervisors wanted her to work under them, in case she took time off work if the pain returned. This led the interviewee to feel like she was a 'leper', an untouchable, in the workplace (interview 18-7-90).

The fault finder's view of the new managers, since Burg took over the plant, was much more positive in marked contrast to the thoughts of the workers on the Tuner line. One said (17-7-90d):

In this company under Burg you can get on but they can be ruthless with you. They do turn their companies around. In the old days bosses were people you didn't talk to. Now, they are younger and come round and ask you about your work. There is the same dinning room. I didn't respect them [old managers], I do now.

Any of the 'old managers' that were left in the plant were slowly leaving. The company was seen to be strict but fair. However, when it came to the QLP programme, opinions were divided between the interviewees. One was already a member of a QLP group, which included operators through to engineers. He thought that membership would eventually become compulsory for all employees instead of voluntary as it was at that time. He praised the programme but the other interviewees were sceptical. They remembered that Koburg's last owners had introduced 'A-Teams', which had failed, and they saw QLP as just another management ploy at getting involvement, without real commitment from managers themselves, and they expected that the QLP scheme would die off in the same way as previous management initiatives to encourage quality improvement (17-7-90d).

Another line worker explained that a part of the problem was that managers and workers did not respect each other and morale was low generally in the company (Interview 18-7-90). She left work for hospital and had an operation to cure the acute pain from using the machine⁴. When she returned to work they put her on a job "which they would not give to PG Tip monkeys"⁵ (Interview 18-7-90). She fought for three months to get another job but was taken round the factory, to each supervisor, by someone in Personnel. They would ask about the wrist and shake their heads - she said she felt like a leper. She asked the Safety Officer for help but he said "what can I do?" (Interview 18-7-90). He thought he was powerless to help her get a decent job again but she managed to get back on the line as a hand (manual) inserter.

Conclusion

In general there was a more positive view held by workers of Japanese managers than of their local equivalents. The latter were seen as relatively incompetent, although this had advantages, such as greater freedom in work. Despite this evaluation, though, there was no assumption of uniformity of purpose between labouring and managing, any more than there was of complete opposition. Thus, in capitalist dominated labour markets, individual workers had interests which resemble those of managers, in the

⁴ This example of industrial injury should not be confused with the illness of a worker explained previously.

⁵ PG Tip monkeys were characters from a television advertisement for a brand of Tea.

desire for the survival and even growth of the company. They wanted what could be termed 'fair' managers, who did not abuse their power beyond that which individual workers saw as a reasonable degree of dominance.

INITIATIVES ON PARTICIPATION

Briefing groups, quality circles, suggestion schemes are all associated with Japanese personnel management practices for gaining employee participation and compliance. Within managerial literature there is much written about participation through activities such as quality circles, including the discussions of Collard (1989) and Hayashi (1989). There is also a broader base of literature about Japanese methods of participation where work groups are involved in decision making (Clark;1979;131), or where workers enjoy a degree of 'responsible' autonomy organising their own work and managing production problems (Odaka;1981). This section will explain the participation practices which were actually used in Koburg and Koorki; suggestion schemes, teams and quality circles.

Suggestion schemes

Only Koorki has a suggestion scheme in operation. The Personnel Director at Koburg explained that many companies which had tried suggestion schemes found that they failed to be effective (Interview 24-10-89). A quote from the Personnel Director at Koorki confirms this opinion (Interview 14-11-89):

We have a suggestion scheme, we've had it for a number of years but generally speaking the success of suggestion schemes is really for running campaigns periodically to push people or persuade people to

take part in it. It's not like on the Japanese scale...

In fact, from the authors experience, there was no difference in the use of such practices in Japanese plants from that in the UK, only that some companies forced quota of suggestions from their employees (Kamata;1984). Thus, suggestion schemes were on the books in Koorki but were not considered important in eliciting participation from workers.

Team concepts

In all four cases managers talked of workers being part of teams. In fact these teams were work groups defined by the first level of supervision. What was supposedly special was the way these 'teams' were focused on the participation of 'members'. In reality, in all the cases this was restricted to briefings, a one way activity, carried out each morning prior to the start of production by supervisors talking to their sections of the plant. The content was the previous day's output and any issues arising from that, the target for the day and any special announcements, such as researchers coming to interview people from the work group!

In fact, what the team concept was really about was to try to increase the role of the supervisor within the labour process. Marchington (1982;82-93) shows how supervisors in Britain have low power because of the role of unions and because the personnel function deals directly with workers and their representatives, undermining the authority of supervisors. In this context, the team concept is a statement to supervisors that management would back their authority and that worker participation, such as it might be, would be directed through supervisors. To this end, especially

in the Japanese plants, supervisors were supposed not to sit behind desks, but to spend time at the line - supervising.

Quality circles

In all the cases management had initiated some form of quality circle, called Quality Leadership Process in Koburg, Small Group Activities in Kohashi, Quality Activity Groups in Kokuda, and plain Quality Circles in Koorki.

Koburg has groups of five people which came together to solve particular problems, meeting after work. In preparation for involvement in the groups, participants were trained for three hours a week over a 15 week 'semester'. Once a problem was solved the group would break up and new members form, depending on the problem to be solved. The main reason for the scheme was to improve quality (Interview 7-12-89b). One person involved in the scheme was interviewed, who was enthusiastic about the scheme's success (Interview 17-7-90d). However, the lack of interest shown by other interviewees seemed to indicate a general lack of enthusiasm among workers.

In Koorki there were seven Quality Circles started the previous year but only four remained at the time of this research. The circles involved six to 10 workers within sections. Many people volunteered for the circles when overtime was cut, to make up pay (Interview 21-2-90c). Three circles were disbanded because participants either gained promotion, became engaged in other activities (a euphemism for 'got bored and left'), or left the company. As an encouragement, one circle leader was sent to Japan to witness the "world meeting of quality circles" of Orki (Interview 21-2-90c).

Kohashi's management introduced a scheme whereby groups of around 10, based in their sections, discussed issues concerning production, including quality, for half an hour every fortnight, finishing production work early to do so (Interview 27-11-89). This scheme involved everyone, but apart from this one reference, no one else in the plant, even the quality assurance manager, discussed the scheme, which suggested that it had been of little significance.

At the Kokuda plant there were about 20 groups meeting voluntarily after work, with pay. The purpose was seen more as developing involvement and "self-fulfilment" than actual improvements in production, or quality (Interview 28-6-90c). Although senior management wished for extensive use of such groups, it depended on the motivations of individual supervisors, who always acted as group leaders. Again, there were no other references to these quality activity groups, other than from the quality assurance manager.

Thus, although some form of quality circle initiative existed in all cases, their pervasiveness was limited. Moreover, the importance attached to them by management was only strongly in evidence in Koburg. Thus overall the contribution of quality circles to relations between the shopfloor and management may best be described as marginal; they were not extensive, nor did they provide a substantive focus for such relations.

CONCLUSION

The underlying conclusion of this chapter is that there are no grounds for supporting arguments which state that the Japanese were more participative in their management style than the managers of the European plant. Koorki was seen as a comparatively better employer but comparative not to Koburg, but to jobs available in the local labour market. It is difficult to develop strict comparisons between the case plants because of the ambiguity of many of the relationships involved, the marginality of some of the practices and the impact of wider environmental influence. However, what is clear is that in both cases the relation between employer and employed was complex. Workers wanted competent managers, clean factories, job security, and so on. To an important extent in both factories workers expected managers to manage, but in Koburg, this was not seen to be done particularly competently as compared with other locally available jobs.

This desire for managers to manage should not be seen in terms of a reconciliation between labour and capital, but rather as an issue of demarcation, whereby a worker does not want to undertake additional tasks, in this case managerial ones. More generally, it indicates a desire by workers that they get on with their jobs without the commitment necessary for management activities, even if that means ceding some control to a management elite in the process.

Another recurrent feature, also touched on elsewhere in the thesis, was the differing consciousness and material reality of women and men in their experience of the labour process. Women started at the lower ranking jobs and had expectations that

they would not have permanent jobs, although they wanted job security, and good, 'fair', management. Male workers also wanted managers who would deal with them as competent workers, prepared to recognise the complexity of their work.

It is inappropriate to view the results of these cases as anything approaching the kind of class accord equated with Post Fordism. Instead, it would be better to think of these workers as realising and reconciling themselves to their subordinated position in relation to their employers. They, neither wanted to do unpaid managerial work nor felt victors in class struggle, rather these workers 'pragmatically accepted' their subordinated position, though within limits, which will be discussed in Chapter Eleven.

CHAPTER TEN

WORKER ATTITUDES TO LABOURING

INTRODUCTION

The chapter is based on interviews with groups of shopfloor workers in two of the case plants; Koburg and Koorki. *The aim was to try and get workers, unprompted,* to talk about their work and through this to reveal their attitudes to various issues. This approach has the weakness of not providing strictly comparable evidence across cases, as Reitsperger (1982) was able to achieve, but does allow the *experience* of work to be conveyed. The approach to the interviews was to ask workers to explain their experiences in their own terms providing only generalised questions to prompt areas of discussion. In this way the research sought to gain a depth of understanding of their experience of factory work. This approach is carried forward to the next two chapters.

This chapter explores differing aspects of the experience of work in Koburg and Koorki to show how the organisation of jobs leads to variations in consciousness and alienation. It demonstrates strong doubts as to whether work in Koorki is in itself more intrinsically rewarding than in Koburg. Further, it will show that women experience work differently than men, mainly because of the jobs that they do and because their dual roles as worker and home maker differentiate their consciousness from that of men. Although methodologically this kind of research it is very difficult

to undertake, a picture of complex experiences and attitudes undermine any view that Japanese capital provides a qualitatively better work environment than non-Japanese employers, contrary to what Post Fordist or managerialist streams in Japanisation assert.

There follows five sections to the chapter. The first section briefly introduces aspects of the literature on the subject, starting with theoretical issues in 'Perspectives on Labour'. The following sections look at specific issues raised in the two case studies: 'Job Mobility', 'Women's Experience of Work' and 'Views of Work and Control'. The last of these is an extended discussion which covers a wide range of aspects of job experience, extending from the nature of the job itself through to rewards. Finally, a 'Review of Arguments', provides a conclusion to the discussion.

PERSPECTIVES ON LABOUR

Within the Japanisation model the implications of the new set of relations between labour and capital have led to claims that workers will be happy and fulfilled in their work. First, looking at perspectives of labour consciousness in Japan, it can be seen that there are divergent opinions as to satisfaction rates. Thus Dore (1973) likened the views of workers in Japan to foot soldiers in the army who gripe at the discipline but are loyal, well treated and enjoy their comradeship (see also Friedman;1986;32). Even critical academics often see the dual industrial structure in Japan as providing a kind of labour aristocracy in the large companies at the expense of those working for subcontractors (Woronoff;1986;66). The research department of Denkiroren

(Electrical Workers Union) publishes periodic results of surveys on members' consciousness which are used widely in discussions by Japanese academics, and which show constantly low satisfaction rates with jobs in Japan compared to other countries (eg Kato;1989, and Kawajima:1984;96-118).

Kamata (1984) was one of the few studies to present a detailed description of shopfloor working experience in Japan and what peoples' attitudes to work were. He worked in a car assembly plant of Toyota as a seasonal worker and showed how a state of false consciousness developed among workers which suppressed the reality of work. This repression explained the lack of conflict on the shopfloor, in which workers took satisfaction from the most trifling things. An alternative explanation is of subdued workers who accepted domination because they had little choice, except to work hard and be inconspicuous (Dohse et al;1985).

In Chapter Three it was shown that surveys have been conducted among consumer electronics workers working in the UK subsidiaries of Japanese firms. These studies include Reitsperger (1982), Takamiya (1981) and Thurley (1985) and generally show mixed responses of employees, some plants with higher satisfaction than indigenous companies, sometimes worse. What these studies cannot do, however, is indicate the patterns of colour which make up worker consciousness.

JOB MOBILITY

Job mobility has two aspects: external to the work organisation, or internal.

Movement between jobs has been an important chapter in British labour history, as illustrated by what Hobsbawn (1964;34-63) called "the tramping artisan". Although limited to a relatively few people, tramping was replaced by stationary homes with mobility by 'tram' (Hobsbawn;1964;46) to different factories. Such actions by labour, obviously show no loyalty to individual firms, in contrast to Japanese employment patterns.

Doeringer and Piore (1971) established a detailed theory of how internal labour markets could be used to cope with changing work requirements within organisations using a stable group of core employees. The model of Japan's core worker internal labour markets is seen to exemplify this model, leading to high job motivation (Dore 1973, Dore et al 1989, Pang and Oliver 1988;16-17, and McCormick 1991). Even more critical writers, such as Whittaker (1990), reinforce this notion of strongly segmented labour markets in which core workers have low labour turnover, partly because the periphery is so mobile.

This section will describe the individual job histories of some of the workers in the plants as it is necessary to study the worker's background in order to understand their behaviour within their plants. The intention is to explain how each company moved people around within the plant, job rotation, and what the job history is of individuals prior to their present employment, to assess if this had any relation with the attitudes of those individuals. BBC (1987) at Komatsu, and Garrahan and Stewart¹, at Nissan,

¹ Discussions at the 1992 Conference of Socialist Economists, London.

explain how management engaged in careful screening to avoid 'trouble makers' in their recruitment of shopfloor workers. However, there is little discussion of such practices by those who study the electronics sector from the perspective of Japanisation. This contrasts with studies such as Morgan and Sayer (1988) and Geary (1992), who indicate that the location of factories typically corresponds to plentiful supplies of vulnerable labour.

It is easy to forget when discussing the labour processes and jobs people do that these same people had lives before they started work at that particular place of production. In some cases, workers are able to choose to do a particular job rather than be given one. This does not mean that the working class is behaving just like managers with a consciousness of a career. Rather, it is an indication of unevenness within the working class in terms of choice and, more importantly, that there is a recognition by workers that change is a part of their working lives.

The job histories of individuals help to indicate a number of things to do with the way the company views workers. If a worker has experience of work only within the company, it may mean that the company wants to have malleable recruits, who have not been 'polluted' by working in another company. Lack of experience more easily allows a company to instil its corporate culture in the recruit. On the other hand it means that the company has to train the employee. If a person is kept in one place on entering the company, it can be because, either the company recruited them for a specific job, or the employee gains a skill or special ability in a particular job, which means the company is reluctant to move them. Alongside this there is the

question of whether the company has the right to move people around in terms of their employment contract, and in practice, or whether the worker has an effective veto on any unwanted movement.

From the workers' point of view, staying with one company or another could indicate loyalty to a good employer, or it may simply indicate a lack of choice. However, this does not necessarily indicate that any particular job or employer is desirable, but may merely be the least worst choice rather than any positive affirmation of labour's subordination to capital.

Koburg

There might be an expectation concerning workers in Koburg that they would drift in and out of the company, especially as the plant was located in a fairly strong labour market, where substitute jobs were easy to find. The expectation might also be of short periods of stay, indicating high labour turnover.

Auto Insertion System operators and loaders

Of four Auto insert minders interviewed, one was female. She had worked in the company for seven years. She had started on the line, manually inserting components, then moved to solder checking and had also done some main assembly work on cabinets and the facia. None of the men had ever worked on manual insertion, so she had done the most common job for women in the assembly factory, but had gained promotion off the lines (Interview 17-7-90b). None of the men had done this kind of 'dexterous' work.

The men had worked in Koburg for 26 years, six years and ten months respectively. However, the one who had current service of ten months, on the same job, had previously worked at the company for six years between 1981 and 1987. At that time he did various jobs, including some, as he said, which no longer existed. He had applied to go into the JVC contract work but stayed on for six months before leaving Koburg for three years. He left because he thought employment was becoming insecure at the plant. In the year after he left, the company went onto a three day week, and at the time he felt vindicated in his decision to leave. The next year the plant grew and shifts were introduced, so he applied to come back on a shift working job. About this period he says "had I known two years ago about this, I wouldn't have left" (Interview 17-7-90b). It is important to note that the company did accept him back; the Japanese companies had a policy which prohibits returning personnel, except in cases of pregnancy (Field Notes 21/22-2-90). This may also indicate the company's need for workers with the relevant skills to operate auto insertion machinery (Interview 17-7-90b).

The woman interviewee described how some people left when the three day week came and fought to return when things picked up in Koburg. She said that another company she worked for previously paid less for longer shifts, making a 12 hour day, and this work was also noisy. This refers to one particular company which did assembly and required vaguely similar types of work to that done at Koburg. All the men knew about this company and agreed with her description (Interview 17-7-90b).

Another of the men started in the plant by setting up machines for women on the line,

"girls" as he put it. This probably meant setting up the alignment and checking machines in the days when this job was split into setters and operators. Then he moved to line feeding - getting parts from stores and 'feeding' them to the lines for operators to insert in the television set. He also did some main line work, and then packing the televisions into boxes for dispatch. From there he applied to go on to shifts, which meant auto insertion (Interview 17-7-90b).

Manual insertion line

Here, the sample interview was with three women, aged 46, 45 and 36. One had worked in the company for 11 months. Another had worked for eight years, 26 years before, but left on marriage, for more pay elsewhere. She returned the previous year after accompanying her sister to the plant. *Her sister wanted a job and so both applied together* (Interview 17-7-90a). Another woman had worked in the plant for seven years, the first four being on alignment and then *she was moved to another new line* with other workers and their supervisor. She refused to continue on the same job so was given manual insertion as the alternative choice. Since then she had not moved from that line and job (Interview 17-7-90a). As in the case of a Koburg auto insertion minder, this was a case of someone leaving the company for a different job, yet being accepted back when she re-applied (Interview 17-7-90a).

Technicians

In Koburg three factory service technicians were interviewed, and they had worked at the plant for 24 years, seven years and eight months respectively. All had been recruited to work in technical jobs from the beginning. None of the interviewees had

left for any period of time and all had done the same kind of job throughout their time at the factory (Interview 17-7-90c).

Tuner assemblers

A group of four women, with various jobs on the section, were interviewed. One had done other jobs in the plant but only after having an operation for an injury sustained whilst doing a job in the tuner section, but she fought to get back to the tuner section. She said she was put on a job "which you wouldn't give to a PG Tips monkey to do", mentioned in the last chapter (Interview 18-7-90).

Fault finders

The three interviewees concerned here had been in the plant for 27 years, 19 years and 20 years, in turn. One, a woman, had been doing fault finding for 10 or 11 years, after being a manual insert checker, and then a float. Again, she had a job history which started in the manual insertion section, though at least not actually inserting. One of the men was recruited from the army, where he had been an engineer. He was put straight on fault finding, starting with basics to the present, where he was the most senior fault analyst. In this job he spent six years fault finding on the tuner lines. The other male had been a fault finder for 20 years in various sections. Before that, it was unclear what he had done (Interview 17-7-90d). It is worth noting that fault finding was a fairly specialised job with its own career structure. It was also not necessary to have experience of those jobs where faults arose.

Conclusion

For technical grades the labour market was external. But for line working jobs, there was some internal promotion possible to supervisory level, or to 'semi-skilled' grades. Women, however, must persevere within the firm to slowly gain promotions in the internal labour market to more interesting and higher paid jobs. With some of the long serving workers, who continuously worked in the plant, there was some evidence of loyalty, though unproven with such a small sample. This throws up doubts as to whether the images of European, and especially British, capitalism are any different from Japanese, a fact which Cole (1979) demonstrates in a comparison of labour mobility between Japan and the US.

Koorki

Because of its Japanese ownership there might be an expectation of a strong internal labour market developing, with a high degree of loyalty in terms of no external job mobility within Koorki. Moreover, with Koorki being established for nearly a decade at the time of the research, it might be expected that these market arrangements be well advanced. However, the evidence suggests otherwise.

Auto Insertion System operators and loaders

In this area, two men were interviewed, one a machine minder, aged 34, and the other, aged 42, who loaded programmes into the auto insert machines. The minder had arrived eight months before, whilst the loader arrived, 13 months previously (Interview 16-8-90c). The operator had worked at a large specialised steel plant and then in the building trade. He applied to come to Koorki because work was not

regular in the building trade and he knew that it was regular in Koorki. He received an application form through a friend who already worked for Koorki and sent it in direct (Interview 16-8-90c).

Neither of these men had worked elsewhere in the plant, but were employed directly into auto insertion within the company. Both wanted promotion but thought of it in terms of moving up within the auto insertion department (Interview 16-8-90c). This way of thinking about promotion might not be so unusual, but the lack of experience in other parts of the plant was in marked contrast to Koburg. In terms of Japanisation, it implies that for these types of employees at least, there was no internal labour market in the Japanese plant, but that there was in the European case. Instead the Japanese plant recruited auto insertion workers from outside the company, specifically to do a job within auto insertion. However, it is possible that within auto insertion there was some movement between jobs but *there was not so much difference in the knowledge needed for each type of job, loader and minder.*

Manual insertion line

Here the one interview was with a float operator, aged 23. She went from school to the plant seven years before with no other work experience. Her first job was on manual insertion for six years on another line after which she became a float, her current post (Interview 16-8-90b).

This pattern of progression for women was similar to that seen for those in Koburg, but as will be shown next, men had a different career formation.

Technician

The single maintenance technician, a team leader, had left school at 16 to take an electrical apprentice at a steel company for four years, and he gained a full City and Guilds Certificate there. He went straight from finishing his apprenticeship to Koorki and had been there for six years. He went to Koorki because the apprentices were to be made redundant at the end of their four year training period at the steel works. Many of the other apprentices went to work in companies as technicians to service photocopy machines (Interview 21-2-90b).

This technician experienced insecure employment and saw Koorki as safe. Further, contrary to arguments of internal labour markets in flexible models of employment, Koorki did not mind its employees being trained outside the firm. Supposedly, in a strait Japanisation case this would be undesirable because they would be inculcated with the bad practices of British skilled workers. Clearly this assertion is false, or Koorki saw contra-balancing benefits, such as cost savings in training.

Alignment

The female alignment float interviewed, had been in the company for four years. Before that she had worked for two years making plastic parts for cars in a local factory. When she was laid off she applied for work at Koorki. After she went she was asked to return to the car parts plant but stayed because the job was seen as secure, acceptable pay and a clean environment in the plant (Interview 16-8-90a).

Conclusion

Some of the recruits went to the Koorki plant after experience of job insecurity elsewhere. Another feature was that much of the training had been done elsewhere, which reinforces the argument that internal markets, or skilling of workers through job rotation, was seldom used. Finally, most of those interviewed had been with the company for a short period of time, when compared to Koburg.

Comparison of cases

The contrast is quite marked between the two plants in terms of the age and experience of interviewees, all the more remarkable when one considers that those interviewed in Koorki were in grades slightly above those in Koburg, being floats rather than operators for example.

It would appear that Koorki recruited people into specific job categories, whilst Koburg used its own internal labour movements to fill some jobs. One reason for this may be that Koburg has undergone large scale contraction, so requiring some movement or loss of jobs for workers. As Koorki has been expanding it was more able to select people for specific job categories, which by the very nature of expansion, grow in number anyway. Significant promotions in Koburg, were possible for women, perhaps even more than for men. But, this was merely a partial compensation for the fact that it was the women who were initially recruited to unskilled and semi-skilled jobs, whilst men were recruited straight into higher positions, and taken on apprenticeships. On the other side, most of these case histories show that the workers interviewed had fairly long periods of time doing the same job.

WOMEN'S EXPERIENCE OF WORK

Women's and men's experience of work was differentiated within the cases for two main reasons. First, there were some differences in the jobs each undertook, such that women tended to experience the more deskilled and repetitive tasks. Second, men and women were socially conditioned to have different expectations from work, so that often women see their working lives as subordinate in importance to men's.

There is a growing set of literature on how women's experiences of work are different from those of men in many respects. Much of this literature makes three points: (a) women perceive that their need to earn money is less important than men's; (b) the jobs they do are less important; and (c) the relations between economic and domestic labour are central to their experience of life. Pollert (1981) traces these connections and how they become internalised within working women as 'natural'. Martin and Wallace (1984;99-100) from a sample of 279 women of different occupational grades and having an average of 22 years work, with one career break, found that these women seldom had career plans, or expectations of development, except for nurses. However, it is unclear if a majority of men have career plans, which may be more a preoccupation of the middle classes.

In the cases, there was some discussion by women concerning their consciousness of work and work relations, though the author's gender obviously influenced the content. On the other hand men would talk about women more openly, perhaps again influenced by the researcher's gender.

Male views of female workers

As there was only one interview with a group who included men who were supervised by a woman (Interview 17-7-90d), most comments were from male managers of female subordinates. One supervisor, who had men and women under his control, exclaimed (Interview 22-2-90a):

Women have to be treated differently than men. You need to be more careful.

This was a commonly held view in the plants. The ambiguity of 'be more careful' often had a 'negative' connotation - women, at least in collective work areas, could not be controlled as easily as men in some ways (Interview 17-7-90c). The men clearly felt the problems created by a dominance which has no rational basis. When confronted with challenges to their masculinity, the men had no legitimate authority for their power and so found the situation awkward.

Perhaps a reaction to this insecurity is a sexual difference in discourse - males were men, no matter what age, and often females were "girls". A justification may be that most of the women were young, with some lines having an average age of 22 (Interview 22-2-90a). However, the term is pejorative and also implies something about the attainment of womanhood. If there were three females of 17 and one of 40 in a group, they would still be termed 'girls', whereas this did not happen if the same people were male.

Women's views of male employees

There were no discussions which highlighted any differences between men and

women in their working. The only comments related to the social groupings at work which often formed. When a man came to train on a manual insertion line one woman noted (Interview 17-7-90):

We have a man trying out now. We have a lot to think about at home and know what each other are thinking so it was easier [if it is only women].

The man was thought, by the women interviewees, to be unable to understand the social group and could never really be part of the group. This was not seen as a criticism of the man but pity for the inevitable isolation he must have felt.

There were comments about the lecherous behaviour of certain managers to younger women on the lines, which was confirmed by the behaviour and talk of a few managers at one lunch break, witnessed by the researcher. At least some of the men saw women as sexual objects inferior to themselves, a factor which found reflection in the oppression of women.

Women's views of their own work

The difference in attitude to the value and place of work in the overall lives of male and female workers was striking. For example, a woman working in auto insertion said (Interview 17-7-90b):

My husband is only home at weekends and my children are grown up. But we all have huge mortgages. It's not so bad for me as for Bill and Ben², because I am not the bread winner.

² Bill and Ben are other interviewees with whom she compared her position.

The woman had the same physical work conditions, the same level of overtime working and so on, even at weekends, yet she viewed work as different. Even though she worked to help pay the mortgage (Interview 17-7-90b) she perceived that she was less responsible and under less pressure than the male workers. She valued the importance of her work less than theirs.

There was fairly strong bonding in women's work groups. This was not only as a result of the common experience of work but because the common experience of home and how the two inter-relate that kept the group strong. One person described the situation (Interview 17-7-90a):

We feel different people inside and outside at home. You do take a lot home to think about. It is very difficult, especially with annualized hours, to have children. You have to make up time at weekends. Husbands come back later but forget that there is no dinner yet because I have just come in before. We cannot live from just my husband's wage. When the children has gone you feel you need something to show for your effort so you stay on.

Work was hard and the husbands did not seem to notice how hard the life was for a woman worker. It was no wonder that the social organisation at work becomes important for the woman worker on the assembly line. Women were conscious of these dual pressures which men did not have, and yet they still subordinated their own position within work.

Conclusion

Women aided and abetted in their own subordination in many respects but also constructed a frontier of control. Women prescribed limits to the overt display of

male oppressiveness through social relations which excluded men. The women felt they lived in two worlds, which reflected a societal image of women as home makers, and hid their economic importance. Economists, such as Koike (1988) and Piore and Sabel (1984), argue that these women exist within secondary labour markets. Although, often these wages are integral to the family wage, women conspire with this language of secondary labour - less essential than men's labour power. Further, although in the case plants these 'women's' jobs are integral to television production, this production relies on women's complicity in their own subordination within the labour process in order for the companies to turn a profit.

VIEWS OF WORK AND CONTROL

This section studies attitudes towards the job and motivation to work. First, 'Views of Work', looks at workers' views of their work, using job categories. Second, 'The Work Group' examines the social relations of working by looking at group formations and attitudes to them. Third, 'Job Comparisons', provides examples of how workers related their own jobs with others. The remaining two sections look at 'Perceptions of Pay' and 'Promotion' in turn to explore workers' views of their reward for labour.

Views of work

This sub-section separates out three kinds of jobs: line, minder and technical. The first was strongly controlled and paced minute by minute by the assembly line, minding jobs were partially controlled and technical activities were remotely paced.

Line jobs

These jobs include manual insertion and quality control. The most graphic descriptions of alienation in the work process were given by interviewees in Koburg.

A good example was given by a woman manual insertion worker (Interview 17-7-90a):

I've spent £75,000 and been round the world, I don't know how many times. We used to have a walkman. When they said you could - we all went out and bought one. Then they said "no" one day - its dangerous. It was brilliant. You can't hear the piped radio. If you are close to a person - they still have to shout. If someone, such as the supervisor talks to you, you always say pardon because it is such a shock to have your (world) disturbed.

In order to cope with the boring repetitiveness the worker fell into a day dream, in the case of the interviewee spending a 'Pools' win and travelling round the world. There was a tendency for the noise in the plant to isolate a person into their own world of fantasy and work action (Interview 17-7-90a, Field notes 17-7-90).

Another said (Interview 18-7-90):

We have no loyalty to the company. I know I shouldn't but I don't care what happens how they (televisions) go out. They (management) don't care so why should I. I wouldn't like to buy a television set like that but I cannot be bothered.

Another piece of evidence of the routine was that there were complaints about certain individuals who caused the interviewees extra work because these 'selfish individuals' would take a week off or be careless in work so stopping the line. This shows a sense of a need for conformity and sharing of work burdens, as well as demonstrating how routine work patterns were not only part of the day, but preferred. Workers want to

sink into the predictable numb routine of the day, the alienation, in order for time to go quickly (Interview 17-7-90a). If they could automate themselves and have nothing interfere to make them human, thinking, independent people again, they could cope with the boredom. The group spirit which understood this 'pain avoidance' grew out of the common experience of work.

An interviewee from a Koorki manual insertion line also saw that a strong group bond existed among the women, based on a sense of shared social relations. She also thought that these friendships extended between workers on the different lines (Interview 16-8-90b).

Tuner assembly work was seen as tedious especially because the same design was made year in, year out (Interview 18-7-90). However, workers had to concentrate on the job because as one said the line moved so fast that she could not sit down but had to walk with the line to get enough time to insert all the components she was supposed to. These interviewees agreed that sometimes there was not time to insert all the components so some were missed causing quality problems. One explained a well known case of a woman who passed-out and collapsed on the insertion line. Instead of the supervisor checking to see if she was OK, she stepped over the body and arms outstretched, and continued to manually insert whilst calling for help. The line did not stop. However, they did not blame the supervisor, who was under pressure from above (Interview 18-7-90). In this case the supervisor was not considered one of 'them', management, as was discussed in the previous chapter.

The high pressure of work was also seen as reducing group spirit on the lines to the point where one said (Interview 18-7-90):

Now, there is no commitment. The wasted part of my life is at work.
There is no life for free time.

Not only is life at work 'worthless' it is also the only thing the worker has time for - 'worthless work'. She felt worn out and wanted to retire once she was 60 or younger if the official age changed (Interview 18-7-90).

However, among fault finders, at least some found the work less tedious. One of the interviewees seemed to enjoy the work, solving problems and saw himself as a kind of manager, looking to improve production and helping to shape a new type of QLP based company. The other two were less enthusiastic, seeing problem solving as a necessary fact of the job. However, they all considered that they were highly skilled in that they needed to understand circuit diagrams and to work out what faults were caused by what defective, or missing part. They were also critical that management did not support them, expecting them to work on new designs with no technical manuals (17-7-90d).

Minding jobs

These jobs include auto insertion machine minding and float workers on the lines. The auto insert workers were disappointed in the isolation of their section from the rest of the plant. They thought they should be shown round the whole factory, to see what happens to the boards (Interview 16-8-90c). One also saw that she was part of the group, although, as a float worker, she had some responsibility over and above

that of ordinary line workers. This meant that her job was not as repetitious as was the case for the line workers (Interview 16-8-90b).

There seemed only one major down side to the job for auto insert workers in Koorki, which was that "it can be a bit tedious" (Interview 16-8-90c). Another interviewee from auto insert said (Interview 16-8-90c):

Time goes slowly unless you are busy so if machines go down we concentrate on those that are going. This way time goes quickly.

On the other side of the tedium, the quote shows that the biggest punishment was no work. When a machine would break down, or if for some other reason there was no work to occupy the worker, they were exposed to the ticking of time. There were two clocks on opposite walls which the workers stared at if they were not kept busy. They did paper work, tidied the work area, anything to stop their eyes wandering to the clocks. Nevertheless work was not considered arduous (Interview 16-8-90c).

In Koburg, to help with the tedium there was a period when personal stereos were allowed on the shopfloor by management. In this case a worker added that radios were tried previously and that it was because of noise that these alternative ways of keeping workers happy were tried (Interview 17-7-90b).

Technical jobs

The job of technical maintenance in Koorki was fraught with pressures and 'let downs'. New systems (machines) were introduced without adequate training. At the same time, the pressure of work associated with just maintaining the lines and in

servicing new machines meant that even junior managers worked "with tools" constantly (Interview 21-2-90b). Moreover, when some machines were to be repaired or maintained, technicians found the line being used when they were supposed to be left for the technicians. Priority was always given to production, not maintenance, and that frustrated the work of the technicians. Whereas when a mistake was made by a technical worker there were detailed inquiries to find out what went wrong, and technicians felt, to apportion blame among them.

In Koburg, technicians talked of pressure from managers where there was a lack of production. Moreover, as with Koorki, new machines and *software were being* constantly developed, creating pressure to adapt to new conditions (Interview 17-7-90c). These changes were not seen as enriching, as one maintenance technician exclaimed (Interview 17-7-90c):

When we work on one system [part of the plant] all the time, it gets boring. Also, we can get several problems at the same time and are expected to be a genius and correct them all at once.

He went on to note how the off-line game of work was played to avoid being given extra work (Interview 187-7-90c):

At times you have to look busy and at other times you are busy.

The maintenance job was one where a person waited for problems to occur but management hated to see idle labour, so technicians had to pretend to management they were always busy in order to keep free to work when a crisis occurred. As was indicated previously, they were the first to be blamed for lost production if the line

stopped.

The technical jobs were characterised by change but without a sense of variety, only the occasional pressure to learn a procedure or tool, with no time to study. Thus, this form of change was a form of work intensification. In character, this was male skilled work with an atmosphere of masculinity as strong as the feminine ambience of the manual insertion interviews, which echoes the findings of Bradley (1989). Without over-stating the point, there was the sense that the uniform, the overalls, was a status symbol for which they had trained. Workers failing to come to work in the company prescribed uniform was not a problem here!

Conclusion

Workers were highly conscious of the nature of their own work. Moreover, this immediate experience was the most important part of the overall experience of work. There was little difference in determining issues towards tedium and repetitiveness - if it was the same work each hour and each day the work was considered bad. Thus, the potential advantage of working away from the line, was that it tended to be less repetitious.

There was a strong similarity between the cases, which shows that for labour there was little choice between, at least these two, employers. Thus, choice of employment may well be based on criteria other than the job itself, something quite different from choices facing managers and professional workers. Also, it is clear that working for a Japanese company makes little or no difference to the boredom and repetitiveness

of line working. In fact the evidence here shows that the company in question tended to extend this type of experience to technical workers as well.

The Work Group

In Koburg attitudes towards the work group were generally positive among the interviewees. As one manual inserter said: "Its the people who keep me here" (Interview 17-7-90a). The work group sat together and even when some were sent to 'help out' on another line, they returned to their normal group at breaks. Labour turnover meant that some did come and go, but as most stayed a long time, the group became a strong community (Interview 17-7-90a). One woman said (Interview 16-8-90a):

You can talk to others on other machines so long as your machine is going. This place has always had a good atmosphere, on the lines and so on. Families come here. We all live in the same area.

Clearly, whatever the relationships with managers, there were positive attitudes to the 'community' of labour in Koburg among many women.

In Japanese companies the connotation of the work group not only includes management but is 'professional' in that it is work-centred during the day and, in Japan at least, social in the evening. In Koorki, workers spoke more dispassionately about their workplace, one saying that it was not a very social place because workers came from a wide geographical area (Interview 16-8-90c).

Groups existed within the case plants but they were not the 'teams' of managerial

literature, or the social groupings associated with pleasure. Instead, friendships were made out of the common experience of work, its boring repetitiveness. Women were more talkative about their experience of groups than the men because they had more experience of line work, where groups bonded strongly, and with in-fighting and all the other features of oppressed conditions within the labour process. Men had continual contact with each other and less commonality of experience.

Job Comparisons

Jobs can be compared with others within the factory and others within the locality, including previous jobs. Related to this question of comparison is the range of jobs available in the area. Thus, around Koorki the major employers were *white collar and* retailing jobs, steel and mining. Around Koburg the main employers were in Naval dockyards and factories in light assembly, similar to Koburg itself.

In Koburg, although there were frequent comparisons with other light industrial plants in the locality, some good and others bad, the main comparison was made with the manual insertion job within the plant. As an auto insert worker said, their job was "easier for us than those on the line, at least we are mobile in AIS" (Interview 17-7-90b). This was not an isolated feeling of superiority in auto insert, as the elite of the manual jobs. A woman fault finder thought that she was lucky not to be on the line doing manual insertion, explaining how hard that job was and how they could not leave the line easily (17-7-90).

In Koorki, one put it that auto insert work was not so hard compared to being a

brickly (Interview 16-8-90c). Another explained (Interview 16-8-90c):

In the coal board I remember being dirty before I start - here I am not dirty going home from work. You could come to work in a suit. You have got to keep your wits about you, you cannot just walk about but there is no hard work here.

The auto insert interviewees saw their present work and work environment as a progression from their previous employment. To them Koorki was a new kind of workplace in the area, which was dominated by declining heavy industry. The interviewees seemed surprised at just how different it was at the factory (Interview 16-8-90).

Not everybody saw Koorki as the pinnacle of their work chances, as one alignment float indicated: she would rather have joined the police force, or been a driving instructor, than have her current job and career path. She intended to stay in Koorki, nonetheless, and hoped for promotion to charge-hand within another four or five years. The pay was 'okay' and the particular line she was on interested her, although she would probably leave if moved onto some of the other lines (Interview 16-8-90a).

In conclusion, there were some differences between the two cases in that Koorki was seen as being clearly better than alternative employers in the locality. However, it was not possible to associate this with being Japanese because in the vicinity of Koburg the comparable plants were similar to Koburg itself, but Koorki was seen as locally unique in its bright, clean - light industrial - atmosphere.

Perceptions of Pay

This section first sets out the pay system for each case, then within each case, compares high skilled and low skilled pay. The intention is to show demarcations in pay between the two levels and how these were perceived by the earners.

In all the cases a basic salary was paid with supplements for shifts, overtime and the like, without bonuses. However, in Hashi there was an annual assessment which could add a small supplement to pay (Interview 27-11-89), and Koburg was in the process of introducing a similar scheme, the A and B grading. The main determinant of differences in a person's pay was still the opportunity for overtime and shifts, and the job grades. Except in Koorki, a supplement was paid to workers who temporarily did a job which was usually paid at a higher grade rate.

Perceptions of pay in Koburg

In Koburg the debate was mainly about comparing with like factories in the area. There was some debate among workers over whether Koburg was a good 'payer' compared to other factories in the area.

One Manual inserter said, her daughter had been a qualified hairdresser but could get double the money at Koburg. Some recognised that they were without any formal qualifications and they were unlikely to obtain this money elsewhere (Interview 17-7-90b).

Another manual insertion worker thought that the new owner provided more money

so Koburg was becoming more competitive for manual workers. On the other side a transformer assembly worker thought it had declined in relation to other large companies in the area. Part of the problem was that no bonuses were paid but "instead of bonuses they bring us ice lollies!" (Interview 18-7-90). Yet the money was not so poor as to cause the interviewees to look for alternative employers.

Koburg's management had introduced some sort of new pay assessments by which workers could get paid at an A or a B grade. One of the fault finders interviewed supported the new pay assessments, but the others did not, except grudgingly. The older one, who supported the scheme, thought that the younger workers were less committed and got everything from the beginning that he had to work for over the years (Interview 17-7-90d).

As in all cases, but perhaps more obviously with technicians, the main motivation was money. The shift money was seen as good for the geographical locality and one said he would leave if shifts ended (Interview 17-7-90c). The technicians saw one advantage they had, which helped them in the external labour market if pay ever became comparatively unfavourable in Koburg (Interview 17-7-90):

We who have had a training have something to fall back on but the pay is good so I wouldn't move.

Technicians had a transferable skill and they knew it. This meant that in this case there had been no structural change in the labour market which had existed for skilled people for over 100 years. If they got fed up with the company they could move easily so the company had to try to attract and retain skilled workers, such as

technicians. The technicians' attitude to the company was instrumental in that they were only concerned with receiving high pay. The fact that none wanted to leave in the foreseeable future was due to management's ability to still make pay appear attractive to the technicians (Interview 17-7-90c). On the other side, the longer these technicians stayed the less their skill would be transferable because they did not use and extend their full range of skills.

Perceptions of pay in Koorki

For non 'skilled' workers pay was competitive relative to retailing and other service sector jobs in the nearby city centre. Thus, Koorki was a popular place to apply for school leavers. A manual insert float at Koorki, a grade C float, would have liked the pay of a grade D senior float but that was the limit. She enjoyed "going fast and so on" to relieve boredom, but the basic motivation was still money (Interview 16-8-90).

Technicians saw the issue of pay from two standpoints. One engineer who had been to college and applied for work in several companies, chose Koorki because it paid more money than the others, and for no other reason (Interview 16-8-90d). On the other hand, half the technicians had left in two years (25 percent a year). One major reason seems to be pay; two people could be working on the same job with the same skills but be paid at different levels because of the grading system. This problem was made more acute and immediate because the traditional views of technicians was not affirmed. The interviewee said that two or three people would start one week and leave the next, thereby maintaining an instability (Interview 17-8-90).

Again a major motivation to work was seen as pay. In Koburg, pay was seen as equitable, in relation to the opportunity costs of jobs in the locality. Moreover, there were no complaints about differentials within the plant. Koorki on the other hand had problems. Pay was satisfactory compared to other employers in the locality for most interviewees. Further, it was relatively secure pay, in that the company would not close in the short term. However pay differentials did cause discontent among technical workers.

Promotion

Promotion attitudes are concerned both with what workers perceive is their opportunity for career progression and their desire to climb the available ladder. One would expect both the availability and desire to be high in the Japanese case (eg. Dore;1973, Kendall;1984, and Koike;1988), but the reality was different.

In Koburg, among manual insertion workers, none wanted to be promoted up to either the float, or supervisor level (Interview 17-7-90a):

None of us want to be floats - you have to know all the jobs for an extra seven pounds a week, a stupid amount. We don't get paid enough for what we do. Its too difficult to be bothered. The supervisor has to be really tough - she is in the middle between us and management. If you are career minded its OK - I just come here for the money.

It was a rational decision not to be career minded when the compensation for the extra stress and effort was not perceived as enough. Thus, for women, even where there were opportunities to gain more money, it was not seen as due compensation for the extra hassle.

In Koorki, one auto insert interviewee did believe that any ability for promotion would be recognised and used by management (Interview 16-8-90). However, a manual insertion float interviewee was not career minded as she did not want to become a supervisor because there was too much pressure with that job. Therefore, it was reasonable to assume that her consciousness was as a worker, and not a would-be manager.

There are very few conclusions that can be drawn from this information, except that there was no clear evidence of a strong desire on the part of interviewees to progress into managerial positions. Technicians, with their higher education, might perhaps be aware that the opportunity existed for them to become managers, whilst all manual workers knew supervisory grades were as high as they were ever likely to reach, and few wanted the pressure associated with such jobs.

Conclusion

In this section, it was clear that those who did repetitive work could have positive attitudes towards those who exploited them. The reason was that they were conscious that they had little option to leave for they either could not find a more psychologically rewarding job for their level of education, or one which was not as highly paid. However, it was not possible to see money alone as adequate compensation for their toil as few wanted promotion and the money that went with it. They seemed happy to remain in their social groups formed at the workplace. Technicians seemed to be the exception to this rule, with little social cohesion in the workplace, money considerations and independence to compensate for their years of

training were paramount for them.

REVIEW OF ARGUMENTS

A major feature of the cases was the different perceptions of their work and labour market position women and men had. The women constantly have low expectations of themselves and reinforced their own subservience at work. They, also saw their work as non-essential, but instead, as a top-up to the family wage. This was despite having jobs the same as men, holding semi-managerial positions, and sometimes being highly skilled (though not recognised as such). Men either saw their jobs as forming careers, especially if they had some training which they considered set them apart from the average working class male. Or, they saw themselves as moving between jobs and employers for money, without necessarily climbing the promotional ladder. Some men admired the stamina of the women on manual insertion, and recognised that they would not be able to cope easily with such a job.

The findings in this chapter do not fall into the neat categories of the surveys reviewed in Chapter 3, but the set of illustrative case studies shows that workers are quite capable of expressing in their own words their conscious experience of exploitation. It is clear that the Japanese companies do not necessarily inculcate an attitude of loyalty, harmony and unitarism that might be expected. Instead there were both differences between Japanese companies, and between sections within such companies. Further, the problems managers have with technicians in Koorki, indicate that Japanese attempts to reduce differences of status and power within the labouring

class is not without its difficulties.

With the possible exception of the rather inconclusive references to job security and life time employment opportunities in the Japanese case, Koburg showed more signs of being 'Japanese' than Koorki. This shows similar findings to that obtained by Reitsperger (1982) although a more complex picture is painted. Some sections of Koburg's workforce were highly critical of the company, whilst others, doing similar work were more positive. There was also evidence of change within the cases. Koburg had become a tighter managed organisation with less room for worker autonomy which appealed to some, but not to most workers, despite a decrease in size over the previous 10 years. On the other hand, as Koorki grew, it too was becoming more bureaucratic and less popular among workers. Such issues require further research in the future.

On the issue of Japanisation the evidence is contradictory. On the one hand, once people arrived at Koorki, they tended not to leave, which indicates something of life time employment loyalties except in the high turnover of technicians. However, this reflected labour market conditions and may also be a result of managers deliberately recruiting people who had experience of job insecurity elsewhere. On the other hand, Koburg had more internal promotions and, from a managerial perspective, a 'better' age profile (workers at different ages in the plant, having worked for a long time there). These issues will be developed further in looking at labour turnover in the next Chapter.

A final point to note was that there was evidence of the social context in which the choice of employment, obviously conditioned if not encouraged by employers, took place. In at least two cases friends of existing employees were introduced to the company when job vacancies occurred. The companies encouraged this form of recruitment because then these non-work relations were then introduced onto the factory floor where introducer became, at least morally, responsible for the conduct of their friend. This allows the employer to exploit private social relations within an economic context.

CHAPTER ELEVEN

EMPLOYEE RESISTANCE AND THE ROLE OF THE UNIONS

INTRODUCTION

According to Clegg (1979) the union is the formal structure through which employee interests have been expressed in Britain. Others, such as Brown (1988) see the declining role of unions as resulting from their inability to represent the changing aspirations and circumstances of workers. Bassett (1987) in turn demonstrates how some unions, particularly in Japanese plants and especially the EETPU, are trying to increase their popularity and role, in line with a shift within the union movements towards a "new realism" (1987;44-64). The EETPU was at the vanguard of this "new unionism" (1987), providing a package of attractions to both employees and employers to boost membership. Benefits, such as training, have been strongly promoted among workers, whilst no strike agreements were offered to employers. Right wing leaders of the EETPU championed single union deals, claiming that union mergers made single unions more logical (1987;91). In exchange for this the EETPU wanted participation and single status within agreements, which would allow limited forms of flexibility. Bassett (1987) argues that it was the EETPU which led the way towards new forms of industrial relations, most of which can be seen operating in Toshiba, Plymouth, which many others have followed. Toshiba has company boards,

single status, flexibility, a "no strike" clause and a single union within the agreement.

One point to make is that this definition of the union as the sole representative of labour limits the choices of actions open to labour. Hyman writes (1975;159): that:

Only by a readiness to act 'unofficially' and 'unconstitutionally' can workers maintain a balance of power at all favourable to their own interests, and hence sustain an effective measure of job control.

As the union legitimizes the existence of management and the dominance of capitalism, so labour sometimes challenges the existence of all three, union, management and capital. Labour may challenge the mutually legitimating relationships of the three through both collective action and individual resistances. Thus, although labour demonstrates resistance to capitalist relations through unions in the UK, and unions often form the focal point of collective relations, labour is not dependent on unions as the only means by which grievances can be expressed. Individual workers can for example leave their jobs, go sick, sabotage their machines, although for collective demonstrations of grievance against employers, unions are, or often become, a focal point. However, it is fair to say that in reverse, the union is dependent on the worker, as member, for its very existence.

The purpose of this chapter is to compare the different cases to ascertain whether the Japanese were establishing a different form of relation with unions from that in Koburg. Further, this chapter aims to examine the nature of this relationship, to indicate whether it was harmonious or whether the union was externalised to the point where workers had to deal directly with managers without the help of a union. The

chapter will show that whilst on the surface Japanese employer - union - employee relations demonstrated 'new realism', in substantive terms this was a mirage. Traditional tensions between consent and control lurked beneath the surface of agreements in complex ways which had more to do with personalities and the nature of the industry than the form of ownership of capital.

This chapter will first outline the structure of the union within the plant, then secondly, deal with the relationship between union and management. The chapter will look at the relationship between the union and workers in the factory. Finally, it examines the issue of worker responses to management in ways that did not directly involve the union. The conclusion will assess how far relations could be seen within a unitarist framework¹.

UNION STRUCTURE AND DENSITY

In all four case plants independent unions were present, although only in Koburg was more than one union recognised by management for negotiation purposes. This section will deal with each case in turn.

¹ The term of a unitary frame of reference for industrial relations was developed by Fox (1966;10-15). The basic argument is that the objectives and interests of labour and capital are the same, notwithstanding the historical despotism of management at some vague time before. Any union or 'third party' intervention in this direct relationship is considered counter-productive and against the interests of both capital and labour.

Koburg

Originally there were six unions at the present plant of Koburg but, through amalgamation, this had been reduced to four: Electrical, Electronic, Telecommunication and Plumbers Union (EETPU), the dominant union, Transport and General Workers' Union (TGWU) with few members, Manufacturing, Scientific and Financial (MSF) and Engineering and Clerical Staff Association (ECSA), with about 50 members.

At the time of this study the EETPU had a shopfloor membership of 370 members out of 780, shared between six stewards. MSF (Manufacturing, Scientific and Financial workers union) represented the white collar workers and engineers with three stewards for 50 members out of 400 indirect employees. Each steward was assigned a section of the factory but a decline in white collar jobs meant a corresponding decline in membership from 250 to 50 and also meant that MSF members were represented by a disproportionately high number of stewards (Interview 6-12-89d).

In the plant, membership density amounted to 40 percent. This contrasted strongly with a then closed production site in a large city, also owned by Burg which had over 90 percent density. The studied plant was located in a part of the country which has had a traditionally low union membership. Moreover, as a senior manager argued, the plant had originally been part of a small family firm, before a large UK corporation took it over in the 1960s (Interview 24-10-89). The implication is that this plant had a tradition of paternalism, so negating the need for a union. There were,

however, areas of the plant, such as fault finders on manual assembly lines, where union density was 100 percent membership.

A recent recruitment drive by the dominant union had improved union density from a previous rate of 34 percent to the present 40 percent. The senior steward for the union expressed his pleasure with this growth (Interview 6-12-89d), although much of the credit for the growth can be attributed to management acquiescence. Personnel Department support such as providing room for displays in the canteen, allowing a disco and giving access to new recruits during induction training illustrates this point. These practices resulted from an agreement between the main union, EETPU and personnel, whereby membership of the main union would be officially encouraged and sanctioned (Interview 6-12-89a).

The stewards reflected the gender composition of the membership of the EETPU, with mainly female members represented by female stewards (Interview 6-12-89d, and Field Notes 6-12-89 and 17-7-90). MSF had a female steward for the secretarial staff and a male for engineers. One distortion to sexual representativeness resulted from the male stewards representing each of the three almost exclusively male maintenance shifts, with much lower steward to membership ratios than for the day shift of mainly women line workers. Overall, there was no area of the shopfloor that was not covered by a steward, although this was not always the case. Indirect jobs sometimes were not covered by stewards because new departments were created more often and the unions were slow to extend steward responsibility into these new areas (Interview 6-12-89d).

While the unions in the factory were formally able to represent their members in an unrestricted way, there was evidence of managerial attempts to sponsor arrangements which by-passed unions or which encouraged 'acceptable' unions (Interview 6-12-89). For example, there was a policy of direct communication by managers with workers which reduced the role of the union as the link between workers and managers. However, this did not impede negotiation and consultation. Another change had occurred with managers encouraging the growth of a single favoured union, although this had been a 'guiding hand' rather than a requirement (Interview 6-12-89a).

The senior personnel manager at Koburg found no problems with a multi-union plant, saying that the unions were "reasonable" and not involved in inter union arguments (Interview 6-12-89a). An indication of this, despite MSF national policy of non cooperation with the EETPU, was that the relations between respective senior stewards were seen as very friendly and cooperative (Interview 6-12-89d). Even so, it should be noted that a regular joint shop stewards committee had been disbanded, with inter-union meetings taking place only on an ad hoc basis. In spite of this two stewards were confident that a common approach was sought between unions prior to negotiating with management (Interview 6-12-89d). There appeared to be a tendency for the combine to meet only when the unions deemed issues serious enough to warrant a joint meeting (Interview 6-12-89d). In this way, these developments seem to re-affirm management's preferred policy of quiescent forms of unionism.

Koorki

In Koorki, a single union agreement had been reached with the General, Municipal

and Boilermakers Union (GMB). Even so, the union comprised separate sections, for staff and shopfloor, with two separate bargaining units. The significance of the agreement was that there was no difference, as far as representation was concerned, between craft and non-craft members on the shopfloor (Interview 13-11-89).

Union membership at the plant was 95 percent of eligible workers, with almost 100 percent on the shopfloor. Membership coverage included chargehands and group leaders up to, but excluding, supervisors, although at least one supervisor was a member of the staff side of the union. The main reason given for the high union density in Koorki was that in the past there had been a closed shop agreement and, although a closed shop ballot under the provisions of the Employment Act, 1980 had not taken place, high union membership was strongly encouraged among workers by management and union within three months of joining the plant (Interview 13-11-89 and 22-2-90c). The union had been provided with time to recruit new members during the induction training course (Interview 22-2-90). The size of the plant and the high density of membership made this plant the biggest branch in the region for the GMB.

In the past, stewards did not have fixed areas which they represented. This meant that there was a tendency for some managers to choose stewards who would most likely not argue with them when a dispute arose. The new convenor² stopped this and, contrary to what people thought possible, achieved demarcations so that each steward

² Although referred to as a convenor he was not officially recognised as such by management, which wished to play down the role of the union as a traditional instrument of collective employee resistance. Recognising a person with the title of 'convenor' would tend to reinforce an identity of this 'traditional' role.

acquired a specific area of the plant to cover, as is common practice elsewhere. The stewards covered about 150 workers and around six supervisors. The new fixed boundaries allowed the stewards to get to know their members and supervisors (Interview 22-2-90c).

A further demonstration of convener effectiveness came from his efforts in recruiting women to become stewards. Originally, there had been no women stewards but at the time of this study three out of eight union representatives were women, one being an equality officer. When elections were to be held the convener asked for women to put their names down on a list on the union notice board. The woman senior steward interviewed, who was one of the first women stewards, wanted to see more women stand for election (Interview 16-8-90e). However, she thought that having women stewards did not effect the issues discussed at the shop stewards' meetings. In terms of overall control it appeared that the convener, with a highly charismatic character, was quite paternalistic towards his members and his stewards (Interviews 22-2-90c and 16-8-90e).

The stewards tended to be young and to lack the experience of stewards in other companies examined in the study. The convener said that "it is frightening" (Interview 22-2-90c), meaning that he himself seemed to be the only one with outside experience to show what the potential power of a well organised and run union shop could be. However, as some compensation, the Personnel Department supported the attendance of elected stewards on two day courses, and then one week courses, for union training. They were also taken round their section by the convener and

introduced to supervisors and members who could be unfamiliar to them because they worked on different lines and areas of the factory (Interview 22-2-90c).

Every month a shop stewards' meeting was held, and when necessary a mass meeting of members. Management gave time off for these members and there did not seem to be problems for line workers in getting time off for such union duties. The convener worked on a job which was not tied to the line but which was regarded as the worst job in the factory, in both the convenor's opinion and the researchers, and could be construed as victimisation on the part of production management (Interview 22-2-90c). The senior steward had been moved from a line job to one which allowed her to leave the job more easily, but this job was considered as boring as the one she held previously (Interview 16-8-90e). Although there was a young manager responsible for industrial relations, the convener tended to deal direct with the Personnel Director. In terms of facilities, there was no union office and instead the convener had been given a couple of benches in the 'test room'. This was neither private or quiet (Field Notes 15/16-8-90). Further, as there was no cover for absence from the job the convener had to seek special permission to leave his job for extended periods (Interview 22-2-90c).

Management and union met once a month, although there was also weekly direct contact by management to workers at a regular mass meeting held in the canteen on Friday afternoons (Field notes 22-2-90), as well as daily briefings undertaken by supervisors (Interview 22-2-90f). A joint agreement between the union and management provided for complete worker flexibility, although some workers were

unaware of its existence. Beyond this there seemed to be few agreements. For example, there was no agreement over the introduction of new technology, although such an agreement did exist with the Orki union in Japan (Interview 17-3-89)³. Instead, there was consultation but within a framework of expansion of jobs, rather than contraction.

Kohashi

Here there was about 75 percent membership in the plant, on the shopfloor, for the EETPU, including both permanent and seasonal workers, or roughly 60 percent of all employees and managers. However, among permanent employees, including managers and office staff, only about 40 percent were union members. About 77 percent of the 400 temporary workers held membership. Overall, half were male members, despite high interest shown among women during sessions when the EETPU was given access to new recruits during induction training (Interview 27-11-89).

Behind these figures there were a few complications, such that in Kohashi, of the total 75 percent of potential members, 65 percent were in the single recognised union, the EETPU, and the remainder belonged to unions not recognised by management,

³ There exist a range of agreements and policies for agreements covering most aspects of industrial relations from treatment of older workers to treatment of workers being posted overseas. It is often difficult to find out what the actual agreements are between company and union although the union federations publish policy guidelines. These are generally applied in the large member unions. The newly formed Rengo has a comprehensive guide to such policies, including for new technology (1988;160-2).

such as the T&G and GMB. These non recognised unions were de-recognised when Hashi took over sole ownership of the plant (Interview 27-11-89). These other unions still maintained their own stewards but there was no recognition given to them by management and considerable rivalry existed between them and the EETPU (Interview 15-8-90d). Inter-union communication between unions did not exist and poaching occurred as the Bridlington rules do not cover non-TUC affiliated unions. In addition, some workers did not wish to belong to any union. Some evidence of poaching away from the EETPU existed which could indicate some dissatisfaction with that union (Interview 15-8-90d).

Paradoxically, when compared with Koorki, there had been a reduction in the participation of women in the role of stewards at the plant. When the plant opened, there were 12 women out of 14 stewards, but only four remained. The convener could not account for this decline (Interview 15-8-90f). Compared to the other cases, however, the general number of stewards was high in relation to total membership and this appeared to be a left-over from the pre-Hashi days though it may have reflected a management backed strategy to head off the growth in membership of non-recognised unions. However, there were areas of the plant where there was no representation, such as parts of assembly (likely to be covered by stewards from other unions) and sections of white collar staff. Nevertheless, the union organisation covered supervisors, which presented a potential problem when it came to determining loyalties, especially considering that the deputy convener worked on their line. The convener was the boss of the steward supervisor in the union but the steward supervisor was the boss of the convener in the company. This created a

dilemma for members who could have to decide which boss to follow and so failed to undertake the duties demanded by the other boss (Interview 15-8-90c). The convenor's position within the union remained important, in that he would normally be the person to go to management on issues in dispute. If the convenor wanted his deputy to take a dispute to management it would be his boss, a supervisor who had to do it (Interview 15-8-90f).

In total there were six kinds of meetings in which stewards were involved. First, there were weekly stewards' committee meetings. From the stewards' committee came the monthly health and safety committee meeting. *Meetings with management* occurred on an ad hoc basis, and these were preceded by a special additional stewards' meeting if needed. Finally, there was a monthly CMB (Company Members' Board) meetings, with additional ones called when required. The convener and his deputy, recognised by management as such, gained automatic election to the CMB. Five senior managers sat on the board with more than that coming from the workers side, though discourse did not contain anything so vulgar as 'sides'. All the workers' representatives were stewards, though not all were from the EETPU. The stewards were not recognised at the meeting as union representatives, but as company members. The outcomes of the CMB discussions were subsequently regarded as recommendations for union negotiation, or management decisions (Interview 15-8-90).

Communications procedures which avoided the unions and operated directly between worker and management also existed. Once a month information was provided to workers on rejects, output and other production related issues. Daily team briefings

were given by supervisors, and the personnel office operated an open door approach towards workers' personal problems (Interview 27-11-89).

The single union agreement contained a no strike clause and provision for pendulum arbitration, though this form of 'Pendulum' arbitration⁴ had not been used thus far. According to the convenor, there was in reality, a further limitation on the scope of union activities in the functioning of the CMB, in that the union tended to be faced with a take it or leave it recommendation on issues it would otherwise negotiate as a functioning union (Interview 15-8-90f). *However, other evidence suggests that the issues which were negotiated or consulted between management and union at Kohashi were no different than those at any other company in similar light industrial product sectors, with which the EETPU had recognition rights (Interview 16-10-90). This is significant in that publicly the union presented its relationship with Kohashi as special, with the Japanese company depicted as managed fairly, unlike indigenously owned firms (Interview 16-10-90). This suggests that what Bassett (1986;134) called "a radical labour relations agreement" has not delivered anything particularly radical, or different, in practice.*

⁴ Pendulum arbitration is an agreement whereby on failure to agree the union and management refer settlement of the dispute to a mutually agreed person or body, often ACAS. The third party then must make a decision which goes in favour of either management's or union's original claims with no compromise in-between. The object is to encourage both sides to start with claims which are 'reasonable' in the first place.

Kokuda

The Amalgamated Engineering Union (AEU) gained a single union agreement when the plant opened on a greenfield site. Membership numbered around 65 to 70 percent of those eligible to join, and was represented by five stewards in one (main) plant, and four in another plant on the same site (for tube manufacture), with one overall convener. Of the four stewards at the second plant there were three men, with one woman covering all clerical workers. In the main plant there were two male stewards for the four different shifts of automatic insertion, another for the warehouse and two female stewards for the production lines, including the deputy convener. Thus, the women's jobs were greatly under represented in comparison to men. *The union had access to starters to encourage them to join the union, as with the other three cases.*

A stewards' meeting was held each week, but because of different shifts not all stewards could attend. Ad hoc mass meetings with members were held but there was little other scope for union activity beyond negotiations with management. In fact, the deputy convener seemed to know little about the union, its history in the plant and its relation to the overall AEU (Interview 28-6-90d). In sum, the structure of the union inside Kokuda appeared very weak, and, in the light of this, it was quite surprising that membership was so high.

Nevertheless, although there had been no official disputes, some sections, such as the predominantly male auto insertion section had been on strike (Interview 28-6-90e). Moreover, unlike the other cases, the AEU in the plant managed to have the six monthly assessments of workers done jointly by an engineer, the supervisor and the

steward (Interview 28-6-90d). At the plant there was also a practice of defining a number of negotiated issues as "failures to agree". But since a failure to agree usually favours the more powerful, the union was at a disadvantage in relation to the more powerful company. On the other hand, the union did have a set of principles which meant that it would not agree to whatever management put up as its final offer.

Summary

Single union agreements were the norm in the Japanese cases though only Kohashi had a no strike agreement. Union density varied depending on whether management supported membership, such that *Koorki was the only case which had almost total membership on the shopfloor*. Meetings and contacts between stewards were common in all cases, although no plant had regular open meetings for workers to attend.

UNION - MANAGEMENT RELATIONS

This section explores the formal and informal relations between management and union representatives. Attention is given to attitudes, power alliances and events which historically shaped relations. It is important to note the role of the union towards management, as well as the unions' need to work with management, at times.

Koburg

The pattern of relations between management and unions at the Koburg plant was a complicated one. Most contact was between the Personnel Department and the convener, or between stewards and the line supervisors, but there was also evidence

that some managers, including British, were opposed to the union presence. For unions, there was a necessary acceptance of the terrain of negotiation set by management (Interview 6-12-89d).

Management's view of the unions was generally, either very positive, or distant, depending on the position of the manager. The Personnel Manager claimed to have open relations, regretting that with 40 percent membership the union was not truly representative of workers (Interview 6-12-89). By the same token, the union could not provide the benefits to management of disciplining members and of acting as a channel for communication. For management's part good relations were seen in terms of a lack of strikes over the previous 40 years. The production manager could not list the names of the unions, nor the up-to-date membership rates, suggesting that unions did not cause problems to production in ways other than strikes. He stated that the only direct contact he had with the unions was over discipline and, even here, it was infrequent because most discipline cases were dealt with lower down the management hierarchy (Interview 6-12-89). Lower level managers had become practised in dealing with discipline so that redress to more senior management occurred infrequently.

The Personnel Director saw the move in the plant towards 'harmonisation', ahead of other employers, as the main reason for the lack of conflict. Open communications was also seen as important. When a plant was to be closed, management claimed to provide open information to show that there was no alternative action. However, the Personnel Director was still surprised at the passiveness of the main union, which took no industrial action and restricted negotiations to terms of redundancy, after a

vain attempt at arguing against closure. This was despite much of the work being moved to the Koburg plant and a history of at least two strikes over the previous 10 years at the plant which had been closed (Interview 24-10-89).

The union stewards saw relations as cooperative but in some senses problematical. The EETPU steward complained that the company refused to appoint an industrial relations officer with whom she could deal on a daily basis (Interview 6-12-89d). This indicates either that management did not think it worth paying a manager to deal with so few issues, or that it had a policy to contain the union's sense of self importance. Another problem was seen in management deciding issues without adequate consultation. For example, a holiday system was changed substantially against union petition that it was undesirable and unworkable (Interview 6-12-89d). The following year management reverted to the old system, indicating a lack of consultation and poor decision-making.

There was some ambiguity expressed about the trend of management's relation with the unions, such that one worker said it was getting better and "managers listen to the union more now" (Interview 17-7-90), than previously. But on the other hand, one steward thought that many of the younger managers entering the company were more 'macho'. She put it in the following words (Interview 6-12-89d):-

Now some of the managers coming in with restructuring at quite high levels they would like to get rid of the unions. Different from the older type of manager here.

On the other hand the Personnel Manager saw unions becoming more reasonable, not

just in terms of the decline in union strength from the 1970s but in relation to inter-union rivalry (Interview 6-12-89a). This had been solved in part, at least, through the removal of separate negotiating rights for technicians and shopfloor workers.

The major development in union - management relations came with the introduction of direct balloting of workers on issues which would normally be handled through the union. The union representatives helped in this process according to management, but it meant marginalising their own representative role. When the union objected to the annualized hours schedule⁵ management put it to a ballot of the complete factory (Interview 6-12-89d). This procedure was adopted under the guise that it was an important issue and because it was argued, the union was not wholly representative having less than 50 percent density, so direct consultation was more appropriate. Despite this action the most senior manager in the plant admitted that his open door policy only extended to union representatives. As in most paternalistic regimes, his direct contact with workers was limited to wandering around the factory floor disturbing workers by asking them inane questions, or by being approached by a worker, who 'collars' him without the supervisor spotting (Interview 7-12-89a).

Shop stewards' contact with managers was predominantly at the level of supervisor, and concerned daily issues of victimisation, discipline and the steward asking for time

⁵ Annualized hours is a system of working where, over the year the hours worked add up to an average of 39 hours, but are adjusted seasonally. For Koburg, this was explained in Chapter Eight.

away from their job to attend to union duties elsewhere. The EETPU representative found it difficult to get permission to leave her job, especially when it was the busy season. In one case, a steward who was consistently refused leave over a three week period contacted the senior steward who asked the personnel manager to "sort it out". The problem was especially acute when the job had to be covered by a float who was herself busy (Interview 6-12-89d). The MSF representative found few problems in leaving the job, as was common for white collar jobs. He would say "we are as much a part of the organisation as anybody else" (Interview 6-12-89d); union work is crucial to the well being of the company. However, the EETPU steward thought that some of the younger managers would not care - wishing to rid the plant of unions. Further, a fault finder thought the union would disappear, as subtle pressures resulting from management's introduction of twice yearly assessments of individual workers grew in significance (Interview 17-7-90d). These pay related assessments worked both to make workers more selfish, and less collectively conscious, and to allow management to reinforce the view that a 'model self motivated employee' would 'succeed' in the firm. Finally, a technician thought that stewards who stuck up for their members were being victimised through these assessments (Interview 17-7-90c). Thus, several workers were conscious that their union was under different kinds of pressures to be 'cooperative' with management.

In the previous 24 years at Koburg there had been some disputes: one of 10 minutes by technical workers was mentioned, and another, by shopfloor workers, reputedly collapsed through lack of support, despite union leadership (Interview 6-12-89d). As the next section shows, this left a bitter memory for many members. However,

despite management claims that multi-unionism had no effect on relations, both they, and the unions, agreed that it was a problem in the past (Interview 6-12-89d). The technical workers had separate negotiating rights and so refused to help the line workers in their strike. The inter-sectional rivalry was dissipated, partly because of the abolition of separate negotiating rights but also because the technicians were joining more than one union, so dissipating their power (Interview 17-7-90).

The prevailing situation was one of no overt conflict but of persistent differences of interest. Against this there was a common conception that, with *market competition* and pressure from the headquarters for cost control, local managers achieved changes in working arrangements without difficulty, without many written agreements, and provided no guarantees to workers, while refusing relations with third parties, such as ACAS (Interviews of 6-12-89).

Koorki

Management union relations at Koorki had become quite complicated in that the union came to be seen as a broker between management and workers, but in a context where the union was seen as unable to initiate collective action, although there had been some collective disputes in the past. Instead, the union turned its focus on to the union convener who had been able to negotiate a range of agreements with management, particularly with personnel management.

Managers made reference to a single wage dispute in 1982, when there was a 'token' strike (Interview 21-2-90c). The strike involved the whole plant for a few hours, in

order to demonstrate to management the extent of worker solidarity (Interview 13-11-89). However, since a shake up in the union extending over the previous three years there had been other disputes, one involving an overtime ban in the lead up to Christmas (Interview 22-2-90c). However, it is fair to say that relations were not considered poor by either management or the union.

The Personnel Director (British) characterised relations with the union in the following way (Interview 13-11-89):

I think the main reason for having a trade union was from a collective bargaining point of view. The company was in a better position to bargain with a representative than you trying to negotiate with different groups of people, whether it be operators or engineers or managers, or any level. My belief is that you have a more effective organisation when you can discuss cooperatively with worker representatives. We have a very good relationship with them. Certainly the trade union movement as a whole has recognised that. Part of the Japanese culture also recognises unions in their own environment, as you're aware. Maybe on a different level than we in western Europe but nevertheless, they work with us as opposed to working against us and I believe that has made a major contribution and bearing in mind that we've got a young workforce, the union representatives and the national trade union being more progressive than they have been in the past. I believe also that because they've been more progressive they tend to be given more information by us about the financial situation of the company. Instead of a conflict situation, it's more of an open discussion. And I think that has a big effect on a young workforce who look up to someone who was a little older than themselves and (are) more likely to take advice and their word for it than if we try to deal with small groups of young people who have got their own mind anyway. I am not trying to decry young people, either. I think it's quite noticeable that young employees (are) generally influenced by what they see on the media, what they've learned perhaps from their parents who worked for other industries. And we try to create a culture here that we're all working together as a team of people and everybody's contribution, whatever level they be, is valuable to us as a human resource.

Like Bassett (1987) the Personnel Manager saw a changing style of union, a more

'realistic' style of union leader. However, the manager also shows not only that it was still beneficial to management to recognise a union but that recognition of a 'cooperative one' was itself no guarantee of 'harmony'. There was still the problem of controlling young workers into the subservience of waged labour, which he implied was achieved through patriarchy. He added that he thought that a single union helped the situation. Other managers, including the Japanese, agreed that relations were generally good (Interview 17-4-90).

As far as the union was concerned the picture was more complex. Prior to the arrival of the present convener the union was seen as weak. One member even thought the union was being paid off by management because the stewards were on top scale, top paying jobs, such as charge-hands, which would still allow union membership (Interview 16-8-90d). The existing convener was in fact on a lowest pay rate. From the time he came to the job he had gradually extended negotiating and representation rights for the union. For example, a "no talking rule" was introduced on the lines. The convener went to the Personnel Director to complain that they should have negotiated this matter with the union, and that it was no way to run a factory. His argument was that the union did not know of the rule until members asked the stewards about it. As they did not know, they looked stupid, and thus could not function as the representative of members, as management wished. He argued that "I want the same respect from the company I will give to them" (Interview 22-2-90c). As a result, the rule was repealed. Two years previously a worker was dismissed for union activities after the probation period had expired. Again the convener complained. The outcome was that when anyone was not taken on after probation an

(Interview 22-2-90c). With the exception of supervisors, production management was far more antagonistic in relations with the union than personnel (Interview 22-2-90c). In fact it would appear that the increased role of the union had provided personnel with an opportunity to become established as a more powerful function within the plant. Personnel had become involved in issues which had previously been the domain of the production function, such as flexibility and issues of participation. Moreover, both management and workers became conscious that union power was also determined by environmental factors. One line worker explained how the media had put unions in a bad light. Another, in the same section, *said that strikes only led to redundancies* as the company would lose competitiveness within the market (Interview 16-8-90c). However, even within this context, stewards were sometimes seen by workers as lazy, or not helping to meet union demands, which were not life threatening to the company. For example, the shift workers complained that the vending machines were always empty at a weekend, and the union did nothing (Interview 16-8-90c). Another worker, who had suffered an industrial injury, complained that the union would not go against management's wish to sack the woman if she had signs of the same injury when she returned from three months sick leave (Interview 16-8-90c). There were also other complaints about union protection in cases of industrial injury.

One woman summed up the relevance of the union in terms of "whatever is going to happen will happen" (Interview 16-8-90b) and the union could not or would not do anything about it. Yet a woman in another section explained that for young workers entering in to the factory the union proved useful as a "buffer" (Interview 16-8-90b)

against management excesses.

Kohashi

The union at Kohashi was relatively weak, and unable to act in any particularly effective way. Unlike the previous case, the convener at Kohashi did not generate support from among his membership. Part of the reason for this was due to the insecurity of employment at the plant in the past (Interview 15-8-90f).

Assessments, where the supervisor awarded money for different grades on the same job had given rise to conflict. This was referred to ACAS but seemed still to be against what the union would have wished. This example shows both a potential weakness in the structure of relations between management and union and a low strength of the union itself. There is also an indication that management had not found it difficult to get rid of some of the more radical or active stewards. Given the fact that there remained stewards for unions other than the EETPU, the power of management over who could be a union representative and remain an employee was not absolute. It was also the case that, at times, supervisors sometimes did not allow stewards to leave the line on union business, especially during the busy season (Interview 15-8-90f).

Thus union weakness is no surprise. A spate of redundancies had occurred at the time of the takeover, and at the same time the single union agreement was being arranged. It is also significant that the company had decided to build up an array of management communication structures. Finally, although according to management

and union at the plant there had been no strikes, or other industrial action, full time officials indicated otherwise (Interview 16-10-90). To what extent these actions took place regularly and whether they were sanctioned by the union or not was unclear.

Kokuda

The union (AEU) at Kokuda found it hard to operate, facing difficulty in obtaining time-off for union duties. At the same time production management tended to see the union as having a helpful role to play in resolving production problems and it was this view which set the terrain for union activities in the plant.

The production manager said that he had a good relationship with the union and that "I find the union representatives very good for helping us solve problems" (Interview 28-6-90e), implying highly cooperative relations. Nevertheless, management still communicated directly with workers in the plant, allowing only an informal role in communications for the union.

As mentioned earlier, the stewards sometimes found difficulty in leaving their workplaces to undertake union duties. The deputy convener found that her supervisor objected to her leaving at first. This situation had imposed a self control by which, if say five other workers were absent, the deputy convener did not bother to ask to leave her post (Interview 28-6-90d). In pursuing claims it was also difficult for the union. The AEU campaigned nationally for a reduction in work hours but this goal was not considered worth pursuing in Kokuda as management had informed the union that they would not give in to such a request and the stewards seemed powerless to

Among the recruits the average age was increasing as the labour market tightened slightly. As a result, many of these recruits were knowledgeable about unions, unlike in the past. The Deputy Convener, for example, was amazed to learn that at another plant there were 15 minute washing up times agreed instead of a packet of hand wipes being sent down the line as the bell rang for the end of the shift. She felt that such union gains would never occur in Kokuda. The steward thought that management had decided that the union in the plant was a special branch of the union, which would not follow the national policies of the AEU. However, as the steward increased her exposure to practices in other companies in the area, and as more companies moved into the area which were operationally similar (light industrial) the greater the pressure for parity with other firms would build up within Kokuda.

Conclusion

In Koburg and Koorki the relations between the unions and management appears to be positive, in that each side recognised the importance of the other and the union was allowed a 'legitimate' role in representing employee interests to management. In the other two Japanese cases union weakness in power relations seems to have meant that severe restrictions curbed the ability of the union to function. In the first two, relations were not so good with production managers, but power came from support by the Personnel Departments, sometimes together in conflict with the production department. However, overall the unions appeared fairly docile, simply undertaking policing roles and monitoring changes which affected members.

UNION - WORKER RELATIONS

This section discusses the relation between the union and workers both as members and non-members. The main issue is how much workers thought the union or unions in the plant represented worker interests to management and how powerful they were in this process. The section relies on evidence from two of the case studies, Koburg and Koorki, to illustrate the differences, using information from both stewards and members.

Koburg

As indicated above, there was a low level of membership at the Koburg plant. This clearly created problems for the union in arguing representativeness. This particular relation will be considered in some detail.

The MSF steward thought that the low rate of membership was due to the poor performance of the company overall as evidenced in redundancies, and to the difficulty of recruiting for white collar jobs (Interview 6-12-89). Both these arguments show considerable naivety when compared to other situations. White collar membership of unions is possible as Mallet (1975) shows with reference to professional workers in France, and Hyman and Price (1983) explain, using the changing historical class position of white collar workers in Britain. Moreover, although union density at a national level declines in parallel with economic performance, membership rates in individual companies may increase as fears of the potential for redundancy grow. The EETPU steward thought that women were less

'union minded' than men and that with the predominance of female employment in the factory the ratio of members was, therefore, low (Interview 6-12-89d).

Membership figures themselves are not the sole guide to the relation between union and member/ worker. It is possible to have pockets of high union density which have great power in deciding how potential conflicts with management will end. The MSF steward put it that "it [membership rate] is low but we still get the job done" (Interview 6-12-89d). Nevertheless, some of the technicians thought that there had been a loss of power recently in the section because there was no longer 100 percent membership. Further, *the problem with sectional differences in density is that there were divisions created on the shopfloor so that technicians would not support others in their strike endeavour* (Interview 17-7-90c).

All the workers talked about a decline in the power of unions in the plant and some even dismissed the union as useless altogether. One line worker said "the union is a load of rubbish" (Interview 17-7-90a). Many of the shopfloor interviewees had once been in the EETPU but had left after a strike, called by the union, collapsed. Those who left felt cheated by the union, which had failed to gain sufficient support before calling the strike to make it effective. Instead, a few women struck, no one else came out, the union then called off the strike and did not protect the few strikers from manager victimisation (Interview 17-7-90a). One woman said that the then steward told her that she "was on her own" (Interview 17-7-90a). Some women did drift back to the union, although with much lower expectations of what a union could provide

members⁶. Overall, many thought the union important only for protection and representation against unfair dismissal and accidents (Interview 17-7-90b).

Workers were aware of difficulties for union representatives to represent them fully, but at the same time they conflated unions' need to work *with* management, to 'working *for* management'. Thus, this made the job of union stewards more difficult and perhaps even pushed them to work closer with personnel management.

Koorki

Koorki had a high union density, as previously shown, quite unlike Koburg. Therefore, the issues of union - worker relations were primarily those of union - member relations.

The male convener was conscious that he acted like a father to many of the members, who by age, *could have been young enough to be his real children. He also thought* that he had to be more sensitive to the "unpredictable" feelings of the women, than when he was at BSC (British Steel Corporation). However it appeared that women members did not present different substantive issues than the men. For example, the idea of a creche was suggested by a woman steward but it met with little enthusiasm

⁶ This experience provides a different explanation of the women's lack of 'union mindedness' mentioned by the EETPU steward previously. Thus, although there may be a gendered explanation for low union activity on the part of women, this arose from the union's poor treatment of them. The question is, had any of the *men* struck, would the union have supported them? If the reason for calling off the strike was a lack of numbers, it still does not explain why no men struck.

from other women members (Interview 15-8-90f).

As in Koburg, there were mixed views about the union in the plant. The manual insertion float thought the union was quite strong and that it fought for its members, including herself (Interview 16-8-90b). Other interviewees were more disparaging, one saying "what union" (Interview 16-8-90c) and another commented "I'm in the union, Its a joke" (Interview 17-8-90). I gained a sense that line workers were more positively disposed to the union though, without further evidence, interviews with about one percent of the workforce are not enough to substantiate this claim. The rest of the section will try to explain this divergent pattern between line and non-line workers.

The auto insertion workers complained that there was not a steward for each shift. The continental shift pattern had been forced on them against their will, and the union had not helped their cause against management. Still further, they grumbled that the union did not support their appeal to management for adequate food facilities for those working on other than day shifts (Interview 16-8-90c). The maintenance technicians were also unhappy over shift arrangements. As the interviewee explained, they told their steward what they wanted but the steward took this to management and returned with a signed agreement that they did not want. They complained to a higher official in the union but to no avail (Interview 16-8-90c). The maintenance technician also thought the union on site had behaved in an underhand way in that in the negotiations for the year's pay increases a ballot was taken on whether to accept a 10 percent increase. When it was rejected a re-ballot was called when 13 people were

off site, but they were refused a vote and the ballot accepted the pay offer from management by a margin of seven votes (Interview 17-8-90). There was, however, some difference of opinion, with one man saying that things had improved with the new convener (Interview 16-8-90c) but other technicians said that union power was declining. One technician said that "the GMB members have a lower IQ and tend to vote for anything" (Interview 21-2-90b), he being in the APEX section of the union. He went on to say (Interview 17-8-90):

I think they (management) have a special relationship with the union that we don't know about.

This was a strong accusation which showed not only a mistrust of the union but that this was a special plant, unlike others in which the GMB had recognition agreements. The convener was more explicit (Interview 22-8-90c):

It was a known fact and a sad fact that the union was paid by the company.

He went on to say that this was done by giving top pay scales to stewards and he defended himself on the grounds of what he thought was his discriminatory low pay. There are then clearly material grounds for being sceptical about the union, at least historically. At the same time the comments of the female Senior Steward (Interview 16-8-90e) and observations around the plant (Field notes 13-11-89 and 16/7-8-90) indicated that the male convener was respected by many and was working hard.

The same steward (Interview 16-8-90e) and the convener (Interview 22-2-90c) agreed that most of the women had little or no experience of unions prior to coming to the

plant, whereas many of the men did have, especially at the British Steel Corporation. This suggests that the experience of unions led men to expect certain conditions and power in the union which were not evident in a light industrial factory. Compared to check-out work in a supermarket, or manual work in a school, however, the factory may have seemed to many women to have a strong union. However, this is only a partial explanation because the union did make some gains which were novel in the area, such as sick pay schemes. At the same time one male worker said that he would not mind if there was no union in the plant after a loss of two years work through unsuccessful strikes at BSC, for which he seemed to blame the union and not the corporation (Interview 21-2-90b).

Assessment

The unions were not generally popular among workers and members, especially among those working shifts. The enthusiastic new convener in Koorki may have been starting to change industrial relations in the plant but there was much scepticism for him to overcome in the meantime.

There was a dual consciousness evident among many workers. Several workers with working class roots, showed a belief in unions, collectivism and wished there was a stronger union in their plant. These same people often criticised the union in the plant but rather than becoming militant just appeared cynical, blaming a change in the economy for their own powerlessness while remembering the past, when all was different. Countering this was a group with the same working class consciousness but a cynicism about all unions because they lost their job 'through' striking. Thus,

consciousness only goes so far - often the unions are seen as at fault, not management, or their own collective will. Thus, the 'logic' of capitalism becomes justified, often because opposition to it seems futile for the individual worker.

CONCLUSION

It is very difficult to draw a conclusion from this chapter that there was a new kind of trade unionism which came either from the new economic environment under Thatcherism or as a part of a process of Japanisation. It is also suspect to think that multi-unionism necessarily causes problems for management, so the desire of Japanese managers to have a single union agreement was perhaps an irrational preoccupation. It is also wrong to think that a greenfield location is a panacea for the creation of a unitarist industrial relations environment, although a non city location may be an advantage (Interview 24-10-89). Finally, it is not possible to gauge union strength simply in terms of union density, as encouragement to join a particular union may be just as important to management as to the union concerned. The picture is far more complex than these catch phrases suggest.

Garrahan and Stewart (1991) argue that union consciousness is largely formed prior to entering Nissan, so that careful screening can greatly assist the company in shaping the form of industrial relations which will grow within the car plant. There is some evidence to support this viewpoint in these cases in that had the convener not been so astute he could have been screened out along with how many in the past? The selection of women, often straight from school, also supports their thesis. It may

tentatively be possible to say that the selection of people who had worked in the Naval dockyard near Koburg and recruitment of ex-BSC workers, who were disillusioned with unions after failed strikes, was a policy which reinforced a type of consciousness which management wanted. However, with shortages of relevantly skilled labour, it is also possible to argue that, with few alternative sources for 'appropriate' labour, management had increasingly less choice in selection. Thus the processes highlighted by Garrahan and Stewart (1991) cannot explain how the union had such patchy successes, especially in Koorki, or how relations within the plant can change, often quite dramatically.

The unions were independent of management but at the same time the stewards see themselves as in a non-conflictual relation with management, especially with the personnel departments. The basic rationale of management prerogative was accepted and the union role was in trying to have that prerogative applied fairly and to ensure that any rewards from competitive success in capitalist terms were shared with labour in some way. The problem is that once the capitalist imperative is accepted the union's hands become tied and that may have led to much of their lack of popularity.

Workers, as the previous chapter showed, tend to find work mundane and intrinsically unrewarding. They react by taking time off and leaving the job or settle into a form of psychological escapism. When the union is not a focus of resistance the workers can undertake industrial action of their own but, if the cause is of general concern and large enough, this puts individuals at risk of being picked out and victimised by management, or union. If this is used as a measure of industrial relations, it can be

seen that Koorki was more conflictual. This would not be a good measurement if management in Koburg was more apt to give the union what it wanted than at Koorki, so avoiding conflict by capitulation. However, if anything, the union in Koorki had been more successful in gaining benefits for workers than Koburg, while the physical conditions of work were little different between the plants.

On the surface, it is possible to conclude that these companies did have industrial relations which emulate what is shown in the media as a 'new realism' by trade unions, especially in Koburg. However, this obscures a historical fact that consumer electronics has always been *relatively strike free*. Further, it ignores the complexity of relations between unions, workers and managers, which are based on both cooperating and conflicting interests within a capitalist mode of production.

CHAPTER TWELVE

CONCLUSION

INTRODUCTION

This conclusion to the thesis draws out issues raised through the preceding chapters in an attempt to redirect current debate on Japanisation and flexibility in ways which incorporate the salient points derived from this study. Thus this chapter reflects arguments made through out the thesis for the continuity of the fundamental relations within the labour process, reflecting a set of *literature which pre-dates the more lately* fashionable notions of 'new realism', Japanisation, flexible firms and Post Fordism. Moreover, it provides insights into the gendered relations of work and the labour market, which reaffirm earlier case studies of womens' experiences of the labour process.

The chapter is divided into five sections. The first, deals with the 'Main Arguments' drawn from the thesis. The second, 'A Re-examination of theory', articulates an alternative theoretical framework to understand the findings of this thesis from those presented in Chapter Two. This alternative approach takes account of the multinational nature of the corporations to which these case plants formed a part. Third, wider debates, of which this thesis can contribute in a limited way, are briefly explored. Fourth, under 'Concluding Remarks', a general conclusion to the thesis is offered. Finally, a set of 'Implications for Research' is provided, in a desire to

influence future research in the field, both in terms of methodologies used and the types of research cases explored.

MAIN ARGUMENTS

There are three conclusions to be drawn from the findings. First, work and employment practices may be characterised as traditional rather than pertaining to any new agenda. Second, there is diversity of employment strategies and practices within industrial sectors. Third, the frontier of contested control within the consumer electronics industry at present favours the power of management.

In an industrial sector dominated by Japanese capital, and which represents an important international trading area of Japanese capital, it would be reasonable to expect that the 'Japanisation' of work relations would be highly developed. Although there is evidence of some practices which are not commonly *discussed in the* literature until the past fifteen years, the organisation of employment relations in the Japanese cases may best be described as that of straightforward, even Fordist, type of mass production assembly line working. The 'new' practices were those of a high degree of management of detail through endless meetings and continual quality monitoring. Against this, there was a managerial preoccupation with maintaining line speed and minimising both change itself, and the effects of any change, which could not be avoided. The result for labour was an intensification of the same kind of experience as under 'slacker' managed environments, yet whether it was considered any worse a situation by workers was inconclusive.

Elger (1990) argues against a holistic analysis of changing employment relations in the UK by pointing out that there is variation between industrial sectors both in degree and form of change. This study allows this idea to be developed so that, although there are characteristics which show commonality within any given sector, there are differences within a sector between enterprises. In many respects, these differences within sectors are as important as the differences between sectors. The reasons for such internal variation relate both to differing environmental circumstances requiring specific strategic responses, and differing strategic decisions to exploit and develop the shared sectoral environment in different ways. An example of the former, is the *differing locations which Hashi was faced with* compared to the other two Japanese companies because of British government policy to protect jobs in existing British owned factories. An example of the latter was Kuda's emphasis on technical innovation, whilst Hashi approached the consumer electronics market as a lower price competitor. As a result corporate strategies towards the market are distinct between the cases, as was described in Chapter Three.

The thesis, therefore, addresses the complex and contradictory nature of relations between capital and labour in these circumstances. The impact of new practices on labour control had led to some intensification of labour, but because the fundamental nature of production, as dictated by the market, had not changed, the nature of the relationship between capital and labour had not changed either in any substantial or meaningful way.

Trade unionism in consumer electronics has always been weak on the whole. This

thesis has explained why this is so and why it is difficult to see any change in union power in the future (cf. Fairbrother;1991). Management in these plants encouraged large single unions, and dominant unions in the cases of Koburg and Hashi, to represent the mass of workers, at the expense of skilled sections of the labour force. Union members on the other hand, although desiring more 'responsible' (Bassett;1986) trade unionism, changed little in terms of their own direct action. The frontier of control on the mass production line, with absenteeism, labour turnover and alienated attitudes, did not coincide with managerial interests. It was as if workers demanded of their unions that which they refused to do themselves.

A RE-EXAMINATION OF THEORY

Within the thesis, models of the new style labour process evoked by Post Fordism, flexible firms and Japanisation have been critically analyzed. In this section these theories are re-evaluated in the light of the case study evidence, and alternative theoretical positions examined. The argument is that Japanisation and flexible notions of Post Fordism mislead because they shift attention away from the multinational nature of Japanese capital. This argument will be developed through two sub-sections, dealing with Japanisation and flexibility.

Japanisation

Oliver and Wilkinson (1992;15-7) list five types of objections to 'Japanisation', which

they dismiss through restating their typology¹, rather than addressing these criticisms directly. These objections range from over homogenising Japanese management and changes in the UK, through to either no change in the UK or change occurring in directions other than towards the Japanese capitalist system. Objections to 'Japanisation' within this thesis incorporate aspects of these criticisms, such that Japanese capitalism is over homogenised, Japanisation is obscuring the realities of consent and control within labour processes, and more generally, the nature of capitalism is contradictory and complex, leading to differentiated strategies by managers depending on circumstances, such as time, location, markets for products and labour, and customs and practices grown up through historical struggle. Specific components or dependencies within Japanisation typologies will be examined next, to identify whether they actually exist, and if so, are they new.

Under whatever definition used, just-in-time practices did not exist within any of the plants. Using definitions common among Japanese managers and academics, which see JIT as achieving low stock holding and frequent supplies, mass produced televisions do not need such tight materials control. If we use definitions of JIT developed by these Japanese writers, such as Shingo (1989) and Taguchi et al (1990), that JIT is small batch production, this not only did not exist, but in the case studies, managerial strategies were trying to ever increase batch sizes. Burg was the only one

¹ This typology explains how Japanese managerial competency is based on the integration of production and worker controls. The central features of this amalgamation are that workers gain from security in employment and that despotic forms of management, as typified by the case studies, are impossible because tight integration forces management to become dependent on labour.

with small production runs compared to the other cases, so that under such definitions of JIT, a European multinational was more 'Japanised' than the Japanese, which is not supposed to be possible under Japanisation typologies.

The supposed Japanese internalisation of employment relations, marginalising trade unions through direct participation within plants at home and in Europe, seem on the surface to be true. The Japanese had single unions, few industrial disputes, and there was much show of participation and communication schemes, whereas Burg was a multi-union plant. However this obscures much more complex relations of conflict and cooperation on the one hand, while on the other, it has to be remembered that the historical nature of the industry is not one of active collective labour. Thus, the single union deals and supervisory 'team' briefings did not change worker consciousness but reinforced managerial prerogatives, especially for Japanese expatriates, who, in general, were educated to think of Western capitalism as inferior, and UK labour as some what anarchistic. Where real attacks were made on union representation, as in Koorki, shopfloor union leadership was able to redress the 'infringements' on union power within their modest limits.

These findings are in line with Abo's (1990;97-120) research on the Japanese consumer electronics industry in the US, from which he concludes that (1990;117):

The consumer electronics industry, as a whole, does not make strenuous attempts to introduce Japanese-style methods relating to work organisation and operations, production control, or systems and devices to enhance a group atmosphere.

Abo concluded that Japanese managerial techniques were not used because they were

not needed in order for the branch plants to achieve production and efficiency targets set by the Japanese. This would indicate that there is nothing particularly unique or superior about Japanese manufacturing techniques or Personnel practices. One can go further, and say that the whole preoccupation with the mystique of Japanese management misdirects research away from the realities of the labour process in Japan and within Japanese multinationals.

Abo's research looked at three forms of ownership, *of which the first were buy-outs* of existing US plants, similar to Hashi in Britain. About these buy-outs, he states (1990;119):

The fundamental competitive edge of both companies rests heavily on being able to apply the "results" of the workplace-orientated operations in Japan, namely product design, *process technology and components*.

Another two companies tried to introduce more involvement practices, whilst the final type tried to introduce both 'adaptive' and 'adoptive' practices - getting US suppliers and engineers to adopt Japanese practices. However, one could add that this last type may merely reveal the limitations of the research methodology used².

When it comes to evaluating the use of Japanese managers Abo (1990;116-7) concludes that:

Our studies did not reveal a clear correlation between the ratio of Japanese expatriates and the extent of application and/or adaption.

² For example there was no research conducted within the supplier companies.

and:

In general, Japanese expatriates are in charge of technology and financial divisions and Americans are in charge of production and human relations. There are, however, many cases where Japanese expatriates assist, or act as advisers for direct American superiors (the "sandwich" structure).

This discussion by Abo (1990) is almost unique in its denial of transfer of substantive Japanese practices to the West. Moreover, one can go further and say that Japan is still being mystified by over-simple or clear-cut models. The simple connections and foci of Post Fordists and many in the Cardiff Business School, with their competing explanations, over simplify complex issues. Although they correctly deny cultural explanations for Japanese business prowess, in order to achieve this they select a collection of features from existing literature and construct a new theory, backed by some highly suspect surveys and biased (managerialist) literature.

An example of how too much can be assumed to be Japanese can be seen by looking at plant locations and the resourcing of new factories. The situation within Japan is one where new plants are built and workers are moved into them from other plants, or increasingly, old plants change round production to accommodate new products while only a few workers move between plants. The reshuffle depends on the product, but normally involves seconding workers familiar with the relevant technology and product production methods. Often these seconded workers stay at the new plant permanently, forming a core of supervisors, technicians/ engineers and

managers³.

In outline, this is not dissimilar to how other countries' large corporations and multinationals work, and how the Japanese operate overseas (though with a more limited group because of language barriers). But what is new is the feeling that the plants opened, or bought-out, by Japanese in Europe and the US are permanent overheads for the Japanese corporations; they will not be closed in the short or medium term (eg. Williamson 1989;6). This is related to the reasons for the initial investment, especially access to protected markets and the fear of trade sanctions. By contrast, in cases where mere cost minimisation is the incentive for investment, plants have been closed in Far East Asia (Interview 28-04-90a). Further, in the case of Toshiba - Rank, rationalisation was undertaken resulting in plant closures and a relocation to a greenfield site in Plymouth, just as Toshiba took complete control (Trevor;1988)⁴. Thus, any given worker in any given branch plant of a Japanese multinational is not in guaranteed employment. This will become more likely as Britain slips into a cheap labour sector of the European economy, in what amounts to the only "free trade zone" of the European Community. Moreover, relocations are increasingly likely in the long term, as more branch plants are established in the European Community, providing a growing opportunity for the Japanese to undertake

³ These conclusions are based on observations at various plants in Japan 1987-90, and from discussions held with senior managers in Matsushita Denki and Sanyo Denki, Professors Abo Tetsuo and Totsuka Hideo of Todai Shaken, and Ishigaki Tatsuo of Denkirouren.

⁴ This is similar to the historical actions of management at Burg and Kohashi.

production substitution strategies.

This thesis does not argue that Japanese capital operates in the same way as does Western capital, just as it would be inappropriate to view a peculiarly Western form of capitalism. There are differences between functions of capital in each country, between each industry and within industries. Moreover, as the power of international capital increases, changes within countries may become more pronounced, but in forms which further complicate labour processes, rather than being merely attempts to mimic dominant states, such as Japan.

Although Japanese capital, within certain industrial sectors, dominates world capitalism, 'Japanisation' of employment relations should not be seen as anything more than attempts by capital and revisionist academics to 'sell' a new managerial utopia, in the same way as 'performance related pay' or 'management by objectives' has been. The nature of capitalism is too complex and contradictory to contain one universal set of managerial techniques. Moreover, labour's consciousness of their subordinated position cannot be 'participated' away in a con-trick.

In summary, the Japanisation debate is obscuring the realities of changing patterns of political economy and the labour process in particular. Therefore, 'Japanisation' as a typology, theory or even philosophy of management is inappropriate to understanding the consumer electronics sector.

Flexibility

Much of the debate around flexibility has been a concern to see whether employment practices are changing in the UK in a way which mirrors those existing in Japan. The nature of this flexibility itself is defined within each model. However, it is common not just to explain flexibility in terms of changing the routine of work but that work itself is somehow qualitatively different in terms of skill, or enrichment (Elger; 1990;68). Against this background a crucial issue within the case studies is to consider how these companies dealt with seasonal demand for television sets. The television assembly industry would appear to have high degrees of flexible working practices as exemplified by Japanese employers. Indeed, Japanese capitalist dominance of the consumer electronics market is frequently put down to their ability to more flexibly respond to the market, whilst simultaneously minimising costs, through flexible work practices (Dore et al;1989, Kenney and Florida; 1988;140).

The evidence from the case studies was that, although there is *considerable numerical* flexibility through the use of overtime, part-time and temporary labour, these were part of long standing sets of arrangements to cope with seasonal variations in consumer demand for televisions. Functional flexibility, analyzed by comparing the range of tasks undertaken by workers under the same job titles in different companies, existed to a very limited extent in the plants. Moreover, the Japanese plants were no more functionally flexible than the European plant, such that, whereas Koorki had auto insert machine minders, who monitored more machines, in Koburg, technicians maintained a greater range of equipment than their counterparts in Koorki.

Although Hyman and Pollert outline more reasonable explanations for current changes in the nature of jobs and employment than does Atkinson, the cases discussed in this thesis may provide qualifications and elaborations to these positions. First, even where industries have long standing peripheral labour pools, technological change can impact upon these arrangements. Instead of Atkinson's move to increased flexibility with new technology, there are reduced requirements in terms of labour replaced by machines. Yet at the same time, skills become polarised so that women's jobs become increasingly deskilled and thus open to numerical flexibility, whereas men's become re-skilled and internalised because of the costs of training, though not necessarily to the point of functional flexibility. Second, consumer market competition does not encourage increased production flexibility, but quite the reverse - it increases price competition, which in turn forces down unit costs, which can only be achieved through reducing change. Reduction of change is achieved through increased control of labour activity, such as going to the toilet, and increasing the sizes of batch production. These are the antitheses of flexibility.

It is commonly seen that an important way in which the Japanese cope with such differences when investing in the UK is to appoint local senior managers for their Personnel functions. Another is to try to remove trade union influence over demarcation by gaining agreements over flexibility and job grading definitions. Finally, through careful selection and recruitment of people who are more glad to get a job than to defend their apprenticed skills. In fact, due to the historical bases of skill definitions and the consciousness of those recruited, job demarcation is maintained on the shopfloor by individuals to the same extent at Koorki, as at

Koburg. Moreover, whereas screening recruits to a greenfield site helps control labour entering the plant, customs and practices quickly become established to create the terms on which conflict occurs.

Conclusion

Research which has focused on the multinational nature of the Japanese electronics industry has tended to focus on different issues and come to different conclusions about the general nature of the industry and Japanese capitalism within it than those who have gone down the parallel roads of Post Fordism and 'Japanisation'. The question is, which is the more fruitful theoretical focus?

This thesis tends to concur with the multinational capital arguments, though not uncritically. For example, the impact of the location of plants within the world has a potentially larger impact on labour in the UK than functional flexibility within the plants. The degree to which multinational capital is flexible to locate and withdraw investments in the UK as elsewhere depends wholly on those circumstances which drove the capital to become multinational in the first place. Thus, if television sales markets in Europe, coupled with UK government incentives and low labour costs encouraged Japanese inward investment, it is those issues which are more important to Koorki than replicating industrial relations practices from 'home'.

One argument remains against this position, that of competitive advantage. The Japanisation and Post Fordist schools have tended to research in such a way as to see how Japanese competitive advantage is maintained in overseas operations. The

implication is that the initial competitive advantage comes purely from the location specific advantages of the Japanese socio-economic system. By being obsessed with explaining, as a point of contrast with the UK and the US, the lack of Japanese labour militancy they have missed the importance of the power structures which underpin Japanese capitalist hegemony. This economic power stems not from the creation of markets, but through financing arrangements and inter-firm collaboration, which can extinguish competition, in limited industrial sectors, Koburg being a case in point. Hegemony spreads, within these limited industrial sectors through a process of extending Japanese indigenous market competition globally. First by destroying local firms then, as the market becomes dominated by only Japanese firms, they compete against each other. This picture is perhaps oversimplified, as in the process of destroying the local firms individual Japanese multinationals can try to extend market share over competitors. An example of this is that of Kohashi; being late into the market, a joint venture with a local firm for a few years let Kohashi gain a foothold on the UK market. Once the foothold was established the joint venture could be destroyed, leaving the Japanese with the whole plant.

ISSUES OF WIDER DEBATE

From the research in this thesis there is some evidence which may contribute to important wider current debates within the academic community. The issue of gender has formed a part of the discussion within previous chapters but, as was indicated in Chapter One, there is not sufficient focus to expand understanding of gendered employment and work relations at anything more than a rudimentary level. This will

be done in the first sub-section, leaving the second to look at current discussions as to whether the role of management, and more specifically Personnel Management, is changing.

Gendered Labour Process

Within the labour process of each case plant women were disadvantaged relative to their male counterparts on the shopfloor at a material level. Jobs were designed in such a way as to take advantage of women's place within the labour market, so that manual assembly was women's work and working with machines was largely men's work. Male jobs accrued overtime and shift premium opportunities, within a context of stable employment patterns. Women, though gaining overtime, also had significant numbers of casual and part time jobs. The numbers of *non-regular women employees* depended on managerial requirements, indicating a degree of substitutability and casualised employment patterns for all women in the plants. Contingent upon this differentiation were the definitions of what constituted skill: women's dexterity was treated as a feminine 'natural trait', whereas male machine minding was a 'learned skill'.

Moreover, the experience of the labour process was also gendered, so that these working class women in the plants talked in ways similar to those in studies of 10 years previous; Pollert (1981) and Beehey (1982). Women recognised their alienated position within capitalism, just as male interviewees, but in addition they were conscious of, and even agreed to, their subordinated position in relation to men within the workplace. This subordination was expressed through a belief that their major

contribution to life was within the home.

Within this context, issues of gender within the plants were not seen as contentious, were not even seen as problematical, by those employed. However, this terrain of consent does not mean that women were any less union minded or ready to engage in collective struggle than men within the cases. Instead, the general lack of collective struggle within the plants may be attributed to high labour turnover, historical experiences of insecurity in the company or previous jobs, and a general perception that these were comparatively decent jobs, given the local labour market conditions. Finally, it is worth noting that the gendering of work is independent of the nature of ownership, Japanese or European: companies from each area were just as exploitative as each other,

Management as 'strategic'

Although this thesis was not written with the specific intention of addressing the debates formed around Human Resource Management, and whether Personnel Managers are becoming more strategically focused within organisations, as discussed by people such as Storey (1992) and Sissons (1989), a small contribution can be made. The issue of debate is two fold: first whether there are transformations or continuity in personnel management of employees, and second, whether any such changes are enriching and involving employees or extending the parameters of exploitation. Storey (1992;263-4) writes:

Among a number of problems in trying to unravel this debate was the lack of methodological comparability. The 'change thesis' largely rested on a few clearly exceptional 'non-standard' cases such as Nissan and Toshiba. The 'continuity thesis', conversely, rested on large-scale questionnaire surveys.

These 'non standard' cases are both Japanese subsidiaries, whereas the surveys involve UK owned firms. However, Storey, through looking at a number of case studies within the auto industry indicates large-scale change, though not unproblematically.

The cases in this thesis indicate changing personnel practices, such as the A and B grades in Koburg and the six monthly assessments in Koorki. These 'innovations' in management run in such close parallel between companies and mirror the interests of 'professional' journals that one might almost be forgiven for thinking that managerialist literature does impact upon managers' thoughts and actions. However, although these changes may incrementally build one on another to result in significant change, there was no transformation in relations or role of different functions of management. In fact, major change would likely be considered undesirable by managers, as well as union representatives, yet it might provide avenues for radicalism among workers.

Instead of the more focused arguments for change in management actions towards a strategic role in managing workers, this thesis has indicated a more contradictory picture. For example, the way Personnel Managers in Koorki 'sponsored' the union indicated internal politics within management. By promoting formalised relations with the union, Personnel hoped to increase its sphere of influence on the shopfloor at the expense of the 'Production' function. In this way, management itself should not be seen as holistic or internally cohesive. This is especially true when the organisation employs expatriates, who often have conflicting interests between functioning in the

present job and personal careers to be developed elsewhere in the organisation.

These arguments are wider than just a critique on Japanisation, they reinforce the fundamental problems of managing the labour process. Thus, not only are the Japanese little better at gaining control of the labour process than their UK counterparts, they too are caught-up in faddism of 'new' techniques and the realities of internal politics.

CONCLUDING REMARKS

The thesis is able to provide some concrete evidence, within the limits of case study research, to challenge the existence of large parts of supposed Japanese production practices, especially 'just-in-time' as described by people such as Oliver (1991). Moreover, the restricted occurrence of other practices, such as *flexibility and low union consciousness* is explained in terms of *the importance of specific contexts*.

At the level of contributing to theories of change in capitalist - labour relations, the research has tended to deny both those who argue that nothing has changed much, and those who present new paradigms⁵. Elger (1990) argues a middle ground where developments of change are occurring sporadically in different industries, with some changing significantly and other almost not at all. This analysis may be extended by arguing that within consumer electronics, at least, there are differences between companies within one industry. Moreover, the country of origin of multinationals

⁵ For a useful critique of these perspectives, see Elger (1990).

within the sector is not an adequate description of such differences. Within an industry, there are characteristics which are uniform for all capitals, such as product markets and fellow competitors. Moreover, because of the nature of the market and available production technology, it is highly likely that skill requirements, technology, and even production methods will be largely similar.

Differences tend to arise from how managers seek to gain their competitive edge over others. This impacts on the continuity of employment, size and some features of the types of workers employed. Another feature which differentiates complexities within an industry, is the historical, social and environmental characteristics of both the local labour market and the customs and practices within plants. Although it is clear that working for Koorki is much the same as working for Kokuda, the above mentioned differences do create both actual and potential differences in employment.

IMPLICATIONS FOR RESEARCH

This thesis is different to the mainstream research findings on Japanese multinationals, and its value should be in making researchers review their assumptions and methodologies especially when looking at Japanese multinationals.

First, there needs to be a clearer conceptualisation of theories such as Japanisation and flexibility. Without this shared understanding and thorough empirical grounding of such theories confusion and reification will persist. Moreover, it is important to change the focus of research on Japanese companies, and industrial sectors dominated

by Japanese capital, away from discussions of 'Japanisation' towards analysis of both the context of organisation, and the choice of practices, which capital undertakes in relation to the organisation of the labour process.

Second, research into Japanese inward investment would benefit by concentrating on either (a) comparative research with Japan and other countries receiving Japanese direct investment, or (b) the extension of research to other industrial sectors, using methodologies which take account of differences *within* sectors.

Finally, the whole area of business and management orientated research would benefit from a more rigorous historical understanding of capitalist development with countries being studied. Ronald Dore has been one of the few protagonists of Japanese business success who gave historical explanations for his findings, especially in 'British Factory - Japanese Factory' (1973), without relying on culturalist simplifications. The historical circumstances through which labour markets formed, the movement from heavy to a lighter industrial base, educational principles, and the changing pattern of earnings within family structures, all help to explain the nature of modern Japanese capitalism. Further, we may learn more about Japanese multinationals through reading development studies literature on China, Taiwan, Korea, Singapore or Hong Kong, than managerial literature on the intricacies of Japanese management, because the former facilitates reflection on the political economy of Japanese capital. Management literature on Japan pretends to be about process, but in fact is merely concerned with the inputs and outputs of management in Japan. On the left, we must stop letting the business school environment obscure the realities of brutal capitalism. We must stop

allowing managerialist literature determine the terrain of debate, and even the form of analysis.

APPENDIX

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STORY OF THE RESEARCH PROCESS

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INTRODUCTION.

In reading for this Appendix, I did not find a strict methodology textbook, what Burgess called "standard methodology texts" (1984;101) very useful or revealing. Instead, by comparing and reflecting on my own desires and actions, I will attempt to show the strength and weaknesses of my research. This Appendix starts by taking a brief journey through the issues which led me to undertake a Doctorate. Second, I look at the method of research, the Case methodology. Third, I outline the way of interviews were done and how I used them in the analysis of the cases. Finally, I record some of the pains of the write-up.

This appendix will attempt to show that because I consider social studies research as an art rather than a science 'validity' is based on trust and 'reasonableness' of arguments. Within this I will try to justify the choice of case study methodology through which the Doctorate research is seen as an interactive process between me, interviewees and informants, the literature, and my supervisor.

HISTORICAL PATH TO ENLIGHTENMENT

It seems worthwhile explaining the way I ended up doing a Doctorate on this topic. While much is missing, my aim has been to recover the salient points which explain why I have come to ask the research questions which inform the thesis.

Pre academic.

I have had a strong interest in social issues since childhood. I came from a traditional middle class family, my mother staying at home and Father going out to work. My father lived a conflict, being a manager in a nationalised industry/ public sector. Further, he had particular difficulty in reconciling "service to the public" with financial constraints that became more pressing as time progressed. This question shaped the subjects I studied at school, politics, social and economic history, sociology, law, and economics.

I was not a 'natural learner', somebody who found academic disciplines easy to comprehend. I enjoyed arguing with teachers and trying to understand what life was like in the real world, where my father worked. This may also have been because I felt it unfair that I saw little of him as he always seemed to be working. I flunked school, gaining entry to an HND at a polytechnic. Here I found arguing with the teacher was meritable (well often, anyway) and I began to do well in subjects to do with money and control, ie financial management and industrial relations. At this time I felt all problems were solvable by knowledge itself. Thus, if you know what the problem is, you can solve it; knowledge is enough in itself. I had yet to understand power.

I was developing a somewhat pragmatic view of the world. I could do accounts. I could understand my father. I could help my brother's business and I could progress my own life. I stayed on to do professional qualifications and having decided to learn as much as possible, went to night school at the same time. I was going to be a

manager; there was nothing else for me. To do otherwise was stupid, yet I enjoyed learning and thought more knowledge would make me better at what ever I did.

However, when I hit the job scene I found work boring, tiring and with not much relation to my knowledge - but at least I could do the company accounts! I persisted for a year and a half before applying to do an MA course which would 'train' me to be at the sharp-end of personnel management. I applied to Warwick among other places.

Academic life

Going to Warwick was intended to be an exercise in becoming an enlightened manager. However, by the end of the first term, the debates and readings started to provide a theoretical set of tools to understand previous experiences. This came as a surprise and disorientated me. By the second term I had decided "to live a false consciousness but retain a conscious mind". I would be a manager as that was the side with power at present, yet would retain the knowledge about class and power relations. The second term was spent learning an alternative path from this unhappiness - to live a lie. Finally, I turned to trying to become an academic, although I never considered myself as one, and still do not. I applied for a Doctorate grant at several Universities and for a Japanese Government (Monbusho) Scholarship to enable me go to Japan. In each case, I wanted more time to catch up the missed undergraduate years. I applied for and gained a two year research scholarship to Japan and a three year SERC (Science and Engineering Research Scholarship) award for Doctorate research. The implications of these lucky breaks was to shape the

Doctorate research and future career plans, the former of which is discussed below.

The legacy.

The result of this experience has been three fold. I have a lack of confidence that I am what is deemed to be of the 'right stuff' for an academic career. This is significant because it causes a reaction against some of the confines of academia - the logical, compartmentalised arguments. If I am going to feel an equal with academic peers, I must deny as relevant some of that which I lack. One of these areas is arguments over methodology. When I read a piece of work - I look for a) does it look as if (s)he had a personal 'truth' and then looked for results to fit it. This does not in itself invalidate the research but restricts what I can use it for. Thus, Beynon's *Working for Ford* (1973) is *limited to telling me the views the stewards had as to what was going on in Ford at the time*. And, b) does the argument *itself seem* plausible and well thought out. So, in the case of Beynon's *Working for Ford* (1973), I believe it is a true reflection of what the stewards think is going on because I believe it is honestly written. Implied in the above thought is that there is more than one way at looking at a situation. This brings me to the third legacy - a moralistic view. I have said that I believe in a single truth.

IMPLICATIONS

Because of these views I was almost bound to continue with industrial relations but maintain a strong interest in the management of control. What was surprising is that I concentrated on the private sector, never getting into or having much of an interest

in public sector work.

When I started the Doctorate, at Brunel University and Henley Management College, I concentrated on the topic of supervisors in companies because they were considered to have an ambiguous role as manager or worker. My choice of academic supervisor - Sheila Rothwell - was influenced by this. I spent six months doing a very traditional Doctorate programme - reading about methodology, supervisors and culture. Towards the end of this six months I heard I had won the scholarship to go to Japan. But it was only confirmed two weeks before the flight date.

After studying the Japanese language for six months in Osaka, I moved to Hitotsubashi University in Tokyo to study wage systems with Ono Akiri. This research would look at the extent of seniority wages and differentials by company size. I soon changed the focus of study to undertake more basic research on issues of trade union history, collective struggle, labour markets and skill formation, through reading materials not readily available in Britain, attending conferences and seminars, meeting activists and officials in trade unions, Japan's peace movement, and academics from different institutions. In addition, I travelled to different places in Japan, cities, countryside, north and south, and met all kinds of people. The purpose was to develop an understanding of diversity within the country, as well as enjoy myself. During the two years I took opportunities to visit factories, which included Mitsubishi Steel, the electronics factories of Mitsubishi, Sanyo, Orki, Hashi, soya source producers and a Toshiba power generation plant.

When in Japan, I did nothing for the Doctorate and almost stayed on for a further two or more years. It was only when a previous lecturer came to Tokyo that he persuaded me to return to the UK and complete the Doctorate. But he, Ian Gow, had moved from Warwick to Stirling as a Professor. He was only one of three people at Warwick who thought I had potential. Soon after that I was having dinner with a Professor from Tokyo University. He asked why I was not going back to Warwick - the centre for industrial relations. He advised me to go where the debate was most stimulating. I returned to the UK wondering where to go: Japanese studies at Stirling or the IROB (Industrial Relations Organisational Behaviour) Department at Warwick. I went to see my old tutor, Richard Hyman, at Warwick. He assumed I would want to transfer back to Warwick, as we had vaguely discussed when I left. But I wondered whether I wanted to be a Japanologist, specialising in Industrial Relations or an Industrial Relations academic specialising in Japan.

Then, it turned out that my first choice of supervisor in the Industrial Relations Department would not supervise my thesis, which was all based around Japan. However, I had decided that first and foremost I was in Industrial Relations. I was then very lucky to find out about my present supervisor, based in the Sociology Department. I made an appointment to see him. He was radical, interested in issues around Japanisation and above all keen on case study methodology and in the interview, he asked me a lot about the methodology of case study research. Finding a supervisor took from April, when I returned from Japan, to July 1989. I only had two years to do my Doctorate from scratch again.

Now I was into the Doctorate, but, I was worried. I was taught that a Doctorate was done in a certain way and I felt I was not doing it that way. Because I only had two years grant left we (Peter Fairbrother and I) had decided to move into field work quickly. At this time I relied on my Supervisor - he said do not worry, I worried, but went along with his recommendation. I had not realised that I had accumulated a fair bit of background knowledge already, from the MA, work experience and my time in Japan. I also produced two theoretical essays during that summer.

The subject we decided on, early on, was to do with not Japan but foreign multinationals and flexibility. Obviously some cases would be Japanese. Access would be easier and I could weave in some of my knowledge on Japan but not become a comparative or Japanology student. Flexibility came out as an issue from the first essay. I planned to return to Japan after the Doctorate and do a comparative study with the Doctorate study. However, I was still unsure what the product of the study would be. Partly the experience of the European case and the fact that I failed to get into a Taiwanese plant had pushed me by weight of case material (one European - three Japanese) back to Japanisation, and partly because that is all that other people ask me about. Then it appeared that I would use the tool of flexibility to discuss Japanisation and other models of change, in particular questions relating to the labour process.

When I started the research topic, I thought I was dealing with certain issues and deliberately, by way of defining what I was doing, saying I was not doing others. I was looking at work relationships. However, although I knew many (about 60

percent) of the case plants were made up of women employees, I was not intending to do feminist analysis. I did, however, look at feminist views of methodology with regard to interviews (Oakley;1981) and methodologies used by authors of feminist research (Cavendish, 1982, Pollert, 1981, Phillips and Taylor, 1980).

In conclusion, what I am saying is that the subject is basically the same but the interpretation has changed subsequently. This is not just because of findings in the cases. This after all is largely determined by the theoretical stance taken when I ask certain questions as well as 'discover' unexpected 'evidence', but also through the process of thinking about and talking with others about what I was doing. The worry in this process, for me, was that as time went on and I discovered what I was doing my ability to change my questions in the case plants became less. So in the end, I might find that I was trying to do something which was no longer possible to do. It was at these times that I returned to basic theoretical issues to reassure myself. I must ask was I getting answers to the basic questions - where's the flexibility and where is it not? What's the control relationship? So long as I could answer these, I thought in the end we should be able to see what theories are driving these relations. I set out with a theoretical framework but the 'evidence' should decide the application of individual theories within that framework.

The central research question is what are the conditions and experience of factory work in assembly type environments, and are these changing or different under the influence of Japanese direct investment capital into Britain. This drew together the strands of interest, experiences in Japan and allowed me to focus on an issue which

I felt was important. On returning to the UK from Japan, I found much of the literature on what is assumed to be practices in Japan within the Japanisation debate were inaccurate. By concentrating on comparisons within the UK my results could be compared with other peoples research. Moreover, I worried that comparing between the UK and Japan would take additional time and may appeal to jingoism. My intention is to explore what I see as the truth about Japanese capitalist relations, and this PhD research is the first stage.

CASE METHODOLOGY.

The research I most liked was by Burawoy (1979), which was based on his own participant observation and also his experience with the Doctoral thesis of a participant observer who worked in the same company ten years before. Such a methodology appealed to me, but severe time constraints and potential problems in gaining the high degree of access needed to undertake such detailed observation, made this option difficult. Case study method more generally, using observations and interviews, such as by Beynon (1973), Nichols and Beynon (1977), and Pollert (1981), could reveal the rich depth of experience of labour and life so difficult to gain from a questionnaire. I therefore sought to adopt such an approach for my own research objectives.

Although I was fairly sure of the approach to the research I wished to use, a number of alternatives need to be discussed. The section will then go on to look at the type of industry and factories to be studied, how access was gained and then the methods

of gaining information. A questionnaire was tried, but interviewing was the main method used.

Alternative methods of research.

The approach to selecting a method or methods for research occurred as an interaction between personal preference and the constraints imposed by the research funding body, the Science and Engineering Research Council, and the organisational gate-keepers, ie the Personnel executives of the companies. My own preference was for a research style which would allow me to talk to people and gain an understanding of their experience of work. I wanted as much time as possible talking to, observing and questioning individuals and groups of people in the four plants. However, with only two years of research money left and Research Council pressure on academic institutions to attain results within four years, a prolonged period in the field was impossible. This limitation was echoed by the gate-keepers, who wanted their commitment to me to be contained within a set time frame. Their reasons were articulated in terms of the time I would take out of the workers and managers productive time in talking to me and the general disruption I would cause in terms of my physical presence within the plants. I suppose the 'need' by some managers for me to be accompanied by people at all times or shut in a room showed a desire to contain my access so as to avoid industrial espionage, or to avoid me finding the deeper realities of labouring and worker struggle.

These practical considerations reduced the range of options in research methods, such that participant observation or observation methods would not be possible with the

number of jobs I wanted to see and people to meet. Moreover, some areas of research could not easily be covered, such as aspects of historical data and some documentary information, from an observation based methodology.

Survey techniques based around some form of questionnaire were a practical alternative to interviews. The advantages would have been that I could have increased the 'validity' of my findings by increasing the sample size to cover all the television plants in the UK. The process would have been quick, especially if I adopted a postal or group method. There are also ways of reducing the bias of gate-keeper selectivity by handing out questionnaires personally to respondents, or from motivated responses by assuring high return rates. As discussed below, I did attempt a questionnaire survey, when access to the shopfloor was being denied by some gate-keepers. However, one form of questionnaire, completed in direct contact with the respondent, like structured interviewing, contains all the disadvantages of needing access to a large number of respondents in order to gain statistically significant data, the time this takes and the formality of the interview process, without the benefits accruing to so called un- or semi- structured interviews, which include flexibility in issues explored as well as the order things are *discussed*. The illustration by Jo Nesbitt on the front cover of Roberts (1981) comically signifies the process. Questionnaire interviews with women and labouring men appear especially inappropriate given the formality of the situation which arises. However, as Oakley (1981;58) states:

A feminist methodology of social science requires that [a] rationale of research be described and discussed not only in feminist research but in social science research in general. It requires further that the mythology of 'hygienic' research with its accompanying mystification of the researcher and the researched as objective instruments of data

production be replaced by the recognition that personal involvement is more than dangerous bias - it is the condition under which people come to know each other and admit others into their lives.

This process of involvement between researcher and researched is termed feminist methodology by A Oakley (1981) but "Interviews as Conversations" by R Burgess (1984). Characteristics of such involvement may be seen as the way the interviewee becomes the interviewer at times as 'counter' questions flow and personalities are relayed openly. This is more difficult in group interviews but the way interviewees discuss with each other relays the same kind of openness (Burgess;1984;117-9).

I went into interviews with a list of question areas in order to compensate for my poor memory and to make sure certain areas were covered. The strategy was to list the questions in topic areas, in a sequence which I thought would form a structured progression to focus on more sensitive areas or introduce complex subjects gradually. The 'must' areas were marked with a asterisk for my easy reference. *I made few notes, relying on tape recordings.* In the interviews, I let the conversation flow around subjects much more flexibly than a look at the topic sheets would signify. I would mark areas covered, explain why I wanted to know something and try as far as possible, given the time constraints imposed by the companies, to share the process with the interviewees. However, I rarely reached the point of 'conversation', as defined by Burgess (1984). With senior managers the interviewing process did become highly formalised, in what may be termed a 'business-like' manner. If I tried otherwise, it would not have met their expectations. Even in the less formal surroundings of the dinner table this formality was replaced with an implied ban on issues raised in the formal interviews.

Selecting the cases

I had decided the type of plants I wanted to study when still in Japan - television assembly within the consumer electronics industry. The reasons were firstly, that the technology was fairly standard so I could avoid the issue of comparability and, secondly, I wanted to avoid the car making industry because of its over-researched nature. Consumer electronics, Japanese style, was often researched by non-radicals and so I wanted to contribute a radical perspective. Finally, I became interested in this sector through friends in the labour movement in Japan and they thought few Westerners had done much in-depth study in this area. In this, I include R Dore's over simplification of industrial relations in GEC (1974), where to prove the superior labour management techniques in Hitachi, he had to 'rubbish' everything in GEC¹. In fact it was Dore who first encouraged me. I had met him in 1986 and he was dismissive of such a study, retorting that there was nothing more to learn about industrial relations within Japanese multinationals based in the UK. When I was in Japan, his book was put on sale in Japanese for the first time, and thinking that Japanese may think this was representative of all European academics, this further encouraged me.

Next, I had to choose the plants where I wished to study. I was advised to choose four. I tried one European, one Taiwanese and two Japanese. The idea was to compare between plants. My supervisor thought it important to have at least one

¹ Much of his comments on GEC were correct, especially as GEC closed its plant soon afterwards. However, he ignored much of the complexity of historical relations in the UK and dismissed how the history almost repeated itself in Japan in the radical movements of pre and post Second World War labour movements.

European - there was only one European left. I wanted the Taiwanese to separate Western from Asian from Japanese. I felt that writers in Japan and the West often over stereo-type all aspects of Japan and confuse this with orientalism (and still do). The reason for two Japanese was to compare between Japanese, because, again, there are differences. I experienced some of these differences when studying and working in Japan and in dealing with Taiwanese, so that the choice of cases was based on assumptions drawn from these experiences.

After contacting the target plants in October 1989, I gained access to all except one case, the Taiwanese company, and I arranged the first interviews in November, 1989. By the end of February 1990, with a change of *Personnel Manager and later her* assistant in the Taiwanese plant, the company finally denied me access. Ironically, it was not until March 1992 that I gained access to the Taiwanese plant, through an introduction by a student at Nottingham Trent University. The lack of a fourth case in late 1989 made me anxious, and I quickly applied for access and got into a third Japanese company. This seemed all the more important to me because in one of the Japanese cases my level of access was restricted (see below). This change had the effect of limiting the type of comparative work I could do as I could no longer compare West with East to any degree; it was straight Japan .v. Europe. It also led me to the view that, as a student at least, once you fail to gain access give up - do not waste time! If they say 'maybe' it means 'no' - it is not worthwhile waiting for a 'yes'. It is worthwhile if I had more time - like five years, but I only had two years of research scholarship money left.

Gaining access

I now wish to discuss in more detail how I negotiated access. My supervisor suggested a cascade approach where I negotiate different levels of access, one after another. I wrote a letter asking for a concrete interview and plant tour. Additionally, I wrote a vague sentence about further interviews in the future. Also, in the letter I said I would phone about a week later. When I went to those interviews, I was supposed to ask for the next stage only. However, having attended a seminar in Warwick Business School on research methodology, Paul K Edwards advised me to be more open in case they think I am being dishonest in my original intention. I asked for all the research access, though, as was true (because I was still unsure), I did not specify names and numbers of desired interviewees.

The levels of access were originally defined at three levels: one, Senior Personnel Executive and plant tour; two, about seven interviews with nine people from stewards and supervisors to production directors; and three, shopfloor interviews. However, after returning from Japan, I decided to insert a fourth type - with expatriate managers. One Japanese case refused access to the shopfloor, which disappointed me - but I suppose I was lucky to get any. Later, in June, a second Japanese firm withdrew access on the grounds of being too busy. Pure circumstance had halved my shopfloor access. Again, my supervisor seemed satisfied² but I was worried that the whole research access would collapse, but it did not.

² Either that or he is a good actor.

The questionnaire experiment

At one point I decided to resort to the use of questionnaires, and although in the end I did not, the reasoning deserves discussion. I decided to beat the work pressure issue by submitting two types of questionnaire to the gate keepers (senior personnel executives). The idea was that the company distributed them, to be filled in by certain shopfloor workers and sent back to me directly. This would have maintained secrecy. To help avoid bias in the company distribution, I proposed that line one and shift A in each work group all get them. I would have liked all shopfloor workers to get them but this would have meant over two thousand four-sided questionnaires. I did not have the time or the money for such a project.

The questionnaire was designed over two weeks and took four drafts before my supervisor and I were happy with it. The questionnaire was long and quite difficult to complete, but anything less, I thought, would have been pointless for my research. However, this left a problem of return rates. On the one side, the higher the number returned the better, though maximising returns was not essential. On the other side, there were some ethical issues. I wanted the questionnaires completed but I would have been asking workers, who are over-worked anyway, to do more overtime. This was especially true because the questionnaire would have come via management, so even if the process of completion was voluntary it was possible that they feel it is like doing unpaid overtime. But I could find no alternative method of distribution. Union stewards were inappropriate, direct mailing would not be possible and any other method I could think of came up against the same ethical problem. In practice this process and obligation may have increased the response rate. By direct return to me

I hoped to avoid bias away from writing to an audience, especially management. In the end no questionnaires were issued. The reason was mainly that as the interviews progressed, the data seemed to be rich enough, without the need for additional sources of information. Other considerations affecting the decision not to issue, included prioritising requests from management for the extension of interviews and second plant tours, and a desire not to replicate work done by other researchers. Much of my findings from interviews contradict a number of MBA theses and surveys of Cardiff Business School, based largely on this type of data collection and I did not wish to replicate this. Finally, there are major questions of validity, when comparing my data with the Cardiff findings, which are explained within the thesis. The implication is that often responses to questions are normative, if to do otherwise, is considered to fail. If you ask a manager in a Japanese company "do you have A (for example just-in-time manufacturing)?" and all the literature, press and so on says they do, they are unlikely to say no we do not have A. This is true especially with Japanese, who see inter-company competition as so fierce that they lose if they say 'no' and the managers in other companies respond with 'yes'. There is an added difficulty with Japanese managers, which is that, when asking a question, even in Japanese, they will say yes to a question to signify yes they understand the question, rather than as an affirmative answer. Only through exploring questions of how and why can you get beyond this normative type of response.

Back to interviewing

The method of interviewing which I adopted is termed 'semi-structured'. What it meant in practice was that a list of questions were written on two or three pages,

broken into topic areas. For each topic area there were one or two key questions, (typed in bold for easy reference) which were quite general. If I had difficulties (eg the interviewee(s) were shy, withholding, or I got sidetracked into an issue) I had several supplementary questions. Hopefully this method allowed me to cover all the issues I wanted, which is very important for comparative analysis, and yet provided scope for the interviewee to talk freely within the confines of a general question. Each question sheet was customised for the job-holder and by company, yet many questions were common to all. A word processor has been invaluable here! At times it became difficult to think *beyond the individual section/ topic to understand how it* fitted into the overall research after the nth draft and the nth time of questioning.

Because of time and through the suggestion of my supervisor, I arranged group interviews for some mainly shopfloor workers. This created a new set of dynamics. On the down side, less got covered, but on the upside, the time turned from an interview, to discussion between group members. Methodological advantages have been that my white coat image was reduced because interviewees gave each other confidence, and I learned much which I could not have known to ask. A problem might have been that a dominant individual controlled the discussion. I did not find this a problem because, (a) they checked with me that I was happy with the discussion, and (b) to some extent shopfloor social relations were being replicated - there were dominant, outspoken people and timid people. If they are dominant in front of me - I expect they are dominant in front of others around the workplace.

INTERVIEW HISTORY

There were five stages or parts within the interviewing process: background in Japan, UK plant personnel executives, other plant managers, headquarters in Japan, and shopfloor workers. Opportunities were taken to interview others, such as union officials and, in one case a European regional headquarters.

During the final month of my stay in Japan (1987-9) I conducted interviews with Personnel, Engineering and Production Managers in three companies. In one of these cases, I also interviewed the head of the company union, in the presence of the Personnel Manager. In all cases I was also given a tour of the factory, and only in one case was I restricted to a 'set' tour, which restricted my degree of exploration of issues and procedures. These tours became important features of my research, both in terms of providing a picture of the assembly processes and as a basis to ask more searching questions in the interviews. Another type of background information gathering were a series of meetings, usually over dinner with leftist trade unionists and the centre confederation, Denkirouren (Electrical Workers Union Confederation). These interviews and meetings formed a set of background material to the Doctorate research which helped develop the critical focus.

In the UK, as already indicated, I decided to gain access to the companies through approaching Personnel Managers, first by sending a letter in which I said I would phone after a week. The letter explained my wish to interview the Personnel Manager, gain a tour of the plant, and made a vague request for further access. After the experience of the first two cases, I included question areas with the remaining

letters. I had several hours in each plant, with usually a two hour interview with the senior Personnel Manager, with some less formal time over lunch. These interviews provided much information as well as providing an opportunity to discuss my desire for further access.

In all the cases I returned to the factory after a few months to interview line managers, supervisors and union representatives, as well as sometimes re-interviewing the Personnel Manager or their assistant. *Sometimes, I was able to see parts of the factory again.* In the Japanese cases interviews were scheduled by the Personnel Department in a single room, to which each interviewee came in turn. This formalised the process and cocooned us away from the factory. However, in one case, Koburg, I was taken to the various offices for the interviewees.

In mid April 1990 I conducted a number of interviews in the headquarters of the three case plants in Tokyo. This was arranged by Abo Tetsuo, Tokyo University, after my approaches via previous contacts and through the case plants failed. A copy of the list of question areas was faxed to the companies and I was asked to take an American scholar as a kind of under-study. Although a sequenced interview schedule was designed, in practice the answers to some questions caused me to change the order, and ask many supplementary questions. Also, in the case of Hashi, due to it being a takeover rather than a set up, there were specific questions I wanted answered in this area. Moreover, the initial sections related to background/ context information on operations, company history, and technological sourcing in Japan.

Within two companies, Koburg and Koorki, I was able to interview shopfloor workers. This meant another trip to the factories and another opportunity to see changes and parts of the plant. The interviewee(s) always came to a central 'interviewing' room, which did influence the behaviour of individuals at first. On the one hand they welcomed the relief to leave the line, but on the other, they felt they were being interrogated.

In conclusion, there were no major problems in conducting the interviews, I was able to see what and who I wanted. The time given, usually 45 minutes was adequate and everybody seemed to be frank and reasonably open in response to questions. However, I would have liked to interview workers in the other two plants and to have re-interviewed some individuals for a second or even third time.

PROBLEMS OF INTERVIEW TECHNIQUE

My supervisor discussed with me several times during the interviewing period about problems and biases both possible and those being encountered, and analyzing techniques to cope with them. These techniques were then supplemented with a few I developed myself.

The questions

There were three basic types of question. First there were questions asking for information, which were asked very directly, often with an explanation as to why I wanted the information. I learned this need for an explanation, especially from senior

managers, in the first interview, when I was asked why I wanted information which was sensitive. The second type of question asked for opinions, which enabled issues of analysis to be raised. The emphasis in questioning was for personal rather than generalised opinions, although, sometimes I felt it appropriate to ask if the personal opinion was generally held. The third style of question was one to confirm my understanding, such that I would make a statement and ask either if the interviewee thought I was correct, would elaborate on my statement, or provide an impetus for the interviewee to portray another statement. This allowed me to check whether my own interpretations of issues or information given was valid, show the interviewee areas of practical knowledge I gained so as to build trust and empathy, or/ and to develop questioning into complex areas which direct questioning may not have broached.

Taping interviews

In all cases the interviews were taped. I knew this would cause some bias in the interviewing but tried to minimise this by first asking for permission to tape and suggesting that the interviewee(s) could ask me to switch the tape off if required due to the sensitivity of information being given, which was sometimes done. I also positioned the recorder at arms length from me, towards the side of the table and within reach of the interviewee(s). Senior union and management officials found no difficulty with this process, having been exposed to the taped interview several times before. Among the others, some ignored the tape from the beginning, while others were nervous at first, but relaxed after a few minutes. In one or two cases, the click of the tape as it finished one side jolted the interviewee back into self consciousness

and the flow of discussion had to be built up again. In one case, an interviewee developed a habit of speaking to the tape deliberately at times in order to extenuate a point she was making. This amused the others and relaxed a fairly tense situation, where line workers were brought in for interview without really knowing why they were taken off the line.

The untaped periods provided some rich anecdotal data but caused problems for recording. I took opportunities, such as waiting for documents, in-between interviews, going to the toilet to write notes; and when *I left the factory I would park the car in* a layby and make notes or scribble on the train going home. However, I lost much to half-memories as the rush of experiences challenged my brain from start to finish.

The process of interviewing was enjoyable and interesting. I learned something about my own behaviour as well as those I interviewed. If I were doing these interviews again, I would like to talk at the workplace and be able to socialise with some individuals.

THE PAINS OF THE WRITE-UP

It is not until I started to write the chapters of the thesis that I really evaluated and understood the focus and substance of the research. This section first describes the process of the write-up and then evaluates the relationship between the thesis and me.

The process.

During the field research a series of papers were written comparing results from interviews and linking these with theoretical issues. This process encouraged my transcription of tapes and provided questions for later interviews. Towards the end of the research period, I started to produce draft chapters. Initially, these chapters were based around the interviews so that there were chapters on managers, workers and unions. However, this layout would not allow me to focus on central issues to do with current debates around Japanisation. Therefore, much of the material already written was reworked into new chapters on production, flexibility, and attitudes of workers. This focus formed the basis for the present structure. Each chapter was split and re-formed, separated as a new chapter emerged and other chapters written from scratch.

This process was halted in late August 1991 by my gaining employment at Nottingham Trent University. For six months, I did no work on the thesis, despite requests from my supervisor, Peter Fairbrother, and attempts at restarting myself. In March 1992, I started to work partially on the write-up and submitted in May 1992 the first 'almost' complete draft since July 1991. However, it was not until July 1992 that the complete thesis was ready for a final check by my supervisor, three years after starting in the Sociology Department at Warwick University. Corrections after the viva took another 10 months because of delays due to my taking up a lectureship at the City Polytechnic of Hong Kong from January, 1993.

Evaluating the process.

At times the writing of the thesis was interesting but mainly it was a necessary chore, devoid of pleasure except that of the expectation of completion. Without the encouragement and sometimes pressure of Peter Fairbrother, Tony Elger and Vic Taylor, I do not think I could have completed this part of the Doctorate.

The process of the final write-up was eased by being able to draw on essays and papers written before and during the data collection stages. Moreover, attending conferences and occasionally giving papers at them or for publication provided stimulation to incorporate new ideas and confirm old ones. Feedback from my supervisor, colleagues in Japan and conferences adapted and encouraged this lonely endeavour. Writing a paper with Tony Elger and Peter Fairbrother had a major impact in realising that there was a point to this research - I had something new to say - and in developing theoretical ideas.

Finally, the writing process helped me mature academically. At the start of the process, I was driven by a negative desire to attack that which I thought was wrong and tell the truth about the 'Japanised' labour process. By the end I became more critical of my own interpretation of the truth and more accepting of a complex interpretation of such realities.

CONCLUSION

Methodology is as much a product of circumstance as intention. Once the method of

research was decided, it was just a question of minimising the shortcomings and playing with ways of getting the most from it.

Behind this process lies a theoretical construct of the world. It is theoretical but one comes to the theory through experience. The choice of theory determines what is interesting and that determines what is read and done academically. *This determines* not whether you do case studies, questionnaires or observation, but the sort of issues to be dealt with within the theoretical framework. The choice between, or in combination of, the three basic types, perhaps should be a pragmatic choice based on appropriateness. However, in the case of Japanisation debates, I think I have been able to show that the methodological focus for my research has been the main reason for this thesis being divergent from previous studies.

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INTERVIEWS

20-02-89	Head of Research	Denkirouren
22-02-89	Personnel & Engineering Managers, Japan	Mitsubishi
17-03-89	Personnel and PR, Tokyo	Orki
24-10-89	Personnel Director	Koburg
13-11-89	Personnel Manager	Koorki
27-11-89	Personnel Manager	Kohashi
06-12-89a	Personnel Manager	Koburg
06-12-89b	Works Engineering Manager	Koburg
06-12-89c	Production Manager	Koburg
06-12-89d	EEPTU and MSF Representatives	Koburg
07-12-89a	Works Manager	Koburg
07-12-89b	QLP Manager	Koburg
07-12-89c	Section Managers	Koburg
21-02-90a	Senior Production Manager	Koorki
21-02-90b	Engineering Maintenance Technicians	Koorki
21-02-90c	Production Manager	Koorki
22-02-90a	First Supervisor	Koorki
22-02-90b	Second Supervisor	Koorki
22-02-90c	GMB Convenor	Koorki
01-03-90a	Human Resources Manager	Kokuda
01-03-90b	Engineering Training Officer	Kokuda
17-04-90	Public Relations HQ, Osaka	Orki
18-04-90	Public Relations and Engineering, Tokyo	Kuda
19-04-90	Overseas Office, Tokyo	Hashi
24-04-90	International Department Chief, Tokyo	Rengo
28-04-90a	International Department Chief, Tokyo	Denkirouren
28-06-90b	Main Line Supervisor	Kokuda
28-06-90c	Quality Assurance Manager	Kokuda
28-06-90d	AEU Representatives	Kokuda
28-06-90e	General\ Production Manager	Kokuda
28-06-90f	Production Engineer (Japanese)	Kokuda
17-07-90a	Manual Insertion	Koburg
17-07-90b	Auto Insertion System Operators	Koburg
17-07-90c	Service Technicians	Koburg
17-07-90d	Fault Finders	Koburg
18-07-90	Tuner Assemblers	Koburg
15-08-90a	Production Engineer	Kohashi
15-08-90b	Quality Assurance Manager	Kohashi
15-08-90c	Supervisor	Kohashi
15-08-90d	Colour Television Works Manager	Kohashi
15-08-90e	Training Manager	Kohashi
15-08-90f	EEPTU Convenor	Kohashi
15-08-90g	VTR Works Manager	Kohashi
16-08-90a	Alignment Float	Koorki
16-08-90b	Manual Insertion Float	Koorki
16-08-90c	Auto Insertion System Operator & loader	Koorki

16-08-90d	Design Specifications Engineer	Koorki
16-08-90e	Senior GMB Steward	Koorki
16-08-90f	Colour Television Senior Manager	Koorki
17-08-90	Maintenance Manager	Koorki
16-10-90	Regional Officer	EEPTU
24-10-90	Sales Managers, European HQ	Kuda
10-03-92	Marketing manager (Taiwanese)	Tatung